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(54) Title: COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER

## (57) Abstract

Compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer, are disclosed. Compositions may comprise one or more prostate tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a prostate tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as prostate cancer. Diagnostic methods based on detecting a prostate tumor protein, or mRNA encoding such a protein, in a sample are also provided.

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## COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER

### TECHNICAL FIELD

The present invention relates generally to therapy and diagnosis of cancer, such as prostate cancer. The invention is more specifically related to polypeptides comprising at least a portion of a prostate tumor protein, and to polynucleotides encoding such polypeptides. Such polypeptides and polynucleotides may be used in vaccines and pharmaceutical compositions for prevention and treatment of prostate cancer, and for the diagnosis and monitoring of such cancers.

### BACKGROUND OF THE INVENTION

Prostate cancer is the most common form of cancer among males, with an estimated incidence of 30% in men over the age of 50. Overwhelming clinical evidence shows that human prostate cancer has the propensity to metastasize to bone, and the disease appears to progress inevitably from androgen dependent to androgen refractory status, leading to increased patient mortality. This prevalent disease is currently the second leading cause of cancer death among men in the U.S.

In spite of considerable research into therapies for the disease, prostate cancer remains difficult to treat. Commonly, treatment is based on surgery and/or radiation therapy, but these methods are ineffective in a significant percentage of cases. Two previously identified prostate specific proteins - prostate specific antigen (PSA) and prostatic acid phosphatase (PAP) - have limited therapeutic and diagnostic potential. For example, PSA levels do not always correlate well with the presence of prostate cancer, being positive in a percentage of non-prostate cancer cases, including benign prostatic hyperplasia (BPH). Furthermore, PSA measurements correlate with prostate volume, and do not indicate the level of metastasis.

In spite of considerable research into therapies for these and other cancers, prostate cancer remains difficult to diagnose and treat effectively. Accordingly, there is a need in the art for improved methods for detecting and treating such cancers. The present invention fulfills these needs and further provides other related advantages.

### SUMMARY OF THE INVENTION

Briefly stated, the present invention provides compositions and methods for the diagnosis and therapy of cancer, such as prostate cancer. In one aspect, the present

invention provides polypeptides comprising at least a portion of a prostate tumor protein, or a variant thereof. Certain portions and other variants are immunogenic, such that the ability of the variant to react with antigen-specific antisera is not substantially diminished. Within certain embodiments, the polypeptide comprises at least an immunogenic portion of a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of: (a) sequences recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; (b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and (c) complements of any of the sequence of (a) or (b). In certain specific embodiments, such a polypeptide comprises at least a portion, or variant thereof, of a tumor protein that includes an amino acid sequence selected from the group consisting of sequences recited in any one of SEQ ID NO: 112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380 and 383.

The present invention further provides polynucleotides that encode a polypeptide as described above, or a portion thereof (such as a portion encoding at least 15 amino acid residues of a prostate tumor protein), expression vectors comprising such polynucleotides and host cells transformed or transfected with such expression vectors.

Within other aspects, the present invention provides pharmaceutical compositions comprising a polypeptide or polynucleotide as described above and a physiologically acceptable carrier.

Within a related aspect of the present invention, vaccines are provided. Such vaccines comprise a polypeptide or polynucleotide as described above and a non-specific immune response enhancer.

The present invention further provides pharmaceutical compositions that comprise: (a) an antibody or antigen-binding fragment thereof that specifically binds to a prostate tumor protein; and (b) a physiologically acceptable carrier.

Within further aspects, the present invention provides pharmaceutical compositions comprising: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a pharmaceutically acceptable carrier or excipient. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B cells.

Within related aspects, vaccines are provided that comprise: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a non-specific immune response enhancer.

The present invention further provides, in other aspects, fusion proteins that comprise at least one polypeptide as described above, as well as polynucleotides encoding such fusion proteins.



Within related aspects, pharmaceutical compositions comprising a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a physiologically acceptable carrier are provided.

Vaccines are further provided, within other aspects, that comprise a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a non-specific immune response enhancer.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient a pharmaceutical composition or vaccine as recited above.

The present invention further provides, within other aspects, methods for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate tumor protein, wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the protein from the sample.

Within related aspects, methods are provided for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated as described above.

Methods are further provided, within other aspects, for stimulating and/or expanding T cells specific for a prostate tumor protein, comprising contacting T cells with one or more of: (i) a polypeptide as described above; (ii) a polynucleotide encoding such a polypeptide; and/or (iii) an antigen presenting cell that expresses such a polypeptide; under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells. Isolated T cell populations comprising T cells prepared as described above are also provided.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population as described above.

The present invention further provides methods for inhibiting the development of a cancer in a patient, comprising the steps of: (a) incubating CD4<sup>+</sup> and/or CD8<sup>+</sup> T cells isolated from a patient with one or more of: (i) a polypeptide comprising at least an immunogenic portion of a prostate tumor protein; (ii) a polynucleotide encoding such a polypeptide; and (iii) an antigen-presenting cell that expressed such a polypeptide; and (b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient. Proliferated cells may, but need not, be cloned prior to administration to the patient.

Within further aspects, the present invention provides methods for determining the presence or absence of a cancer in a patient, comprising: (a) contacting a biological sample obtained from a patient with a binding agent that binds to a polypeptide as recited

above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; and (c) comparing the amount of polypeptide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within preferred embodiments, the binding agent is an antibody, more preferably a monoclonal antibody. The cancer may be prostate cancer.

The present invention also provides, within other aspects, methods for monitoring the progression of a cancer in a patient. Such methods comprise the steps of: (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polypeptide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

The present invention further provides, within other aspects, methods for determining the presence or absence of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein; (b) detecting in the sample a level of a polynucleotide, preferably mRNA, that hybridizes to the oligonucleotide; and (c) comparing the level of polynucleotide that hybridizes to the oligonucleotide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within certain embodiments, the amount of mRNA is detected via polymerase chain reaction using, for example, at least one oligonucleotide primer that hybridizes to a polynucleotide encoding a polypeptide as recited above, or a complement of such a polynucleotide. Within other embodiments, the amount of mRNA is detected using a hybridization technique, employing an oligonucleotide probe that hybridizes to a polynucleotide that encodes a polypeptide as recited above, or a complement of such a polynucleotide.

In related aspects, methods are provided for monitoring the progression of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein; (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polynucleotide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

Within further aspects, the present invention provides antibodies, such as monoclonal antibodies, that bind to a polypeptide as described above, as well as diagnostic

kits comprising such antibodies. Diagnostic kits comprising one or more oligonucleotide probes or primers as described above are also provided.

These and other aspects of the present invention will become apparent upon reference to the following detailed description and attached drawings. All references disclosed herein are hereby incorporated by reference in their entirety as if each was incorporated individually.

#### BRIEF DESCRIPTION OF THE DRAWINGS AND SEQUENCE IDENTIFIERS

Figure 1 illustrates the ability of T cells to kill fibroblasts expressing the representative prostate tumor polypeptide P502S, as compared to control fibroblasts. The percentage lysis is shown as a series of effector:target ratios, as indicated.

Figures 2A and 2B illustrate the ability of T cells to recognize cells expressing the representative prostate tumor polypeptide P502S. In each case, the number of  $\gamma$ -interferon spots is shown for different numbers of responders. In Figure 2A, data is presented for fibroblasts pulsed with the P2S-12 peptide, as compared to fibroblasts pulsed with a control E75 peptide. In Figure 2B, data is presented for fibroblasts expressing P502S, as compared to fibroblasts expressing HER-2/*neu*.

Figure 3 represents a peptide competition binding assay showing that the P1S#10 peptide, derived from P501S, binds HLA-A2. Peptide P1S#10 inhibits HLA-A2 restricted presentation of fluM58 peptide to CTL clone D150M58 in TNF release bioassay. D150M58 CTL is specific for the HLA-A2 binding influenza matrix peptide fluM58.

Figure 4 illustrates the ability of T cell lines generated from P1S#10 immunized mice to specifically lyse P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat A2Kb targets, as compared to EGFP-transduced Jurkat A2Kb. The percent lysis is shown as a series of effector to target ratios, as indicated.

Figure 5 illustrates the ability of a T cell clone to recognize and specifically lyse Jurkat A2Kb cells expressing the representative prostate tumor polypeptide P501S, thereby demonstrating that the P1S#10 peptide may be a naturally processed epitope of the P501S polypeptide.

Figures 6A and 6B are graphs illustrating the specificity of a CD8<sup>+</sup> cell line (3A-1) for a representative prostate tumor antigen (P501S). Figure 6A shows the results of a <sup>51</sup>Cr release assay. The percent specific lysis is shown as a series of effector:target ratios, as indicated. Figure 6B shows the production of interferon-gamma by 3A-1 cells stimulated with autologous B-LCL transduced with P501S, at varying effector:target ratios as indicated.

SEQ ID NO: 1 is the determined cDNA sequence for F1-13

SEQ ID NO: 2 is the determined 3' cDNA sequence for F1-12

SEQ ID NO: 3 is the determined 5' cDNA sequence for F1-12  
SEQ ID NO: 4 is the determined 3' cDNA sequence for F1-16  
SEQ ID NO: 5 is the determined 3' cDNA sequence for H1-1  
SEQ ID NO: 6 is the determined 3' cDNA sequence for H1-9  
SEQ ID NO: 7 is the determined 3' cDNA sequence for H1-4  
SEQ ID NO: 8 is the determined 3' cDNA sequence for J1-17  
SEQ ID NO: 9 is the determined 5' cDNA sequence for J1-17  
SEQ ID NO: 10 is the determined 3' cDNA sequence for L1-12  
SEQ ID NO: 11 is the determined 5' cDNA sequence for L1-12  
SEQ ID NO: 12 is the determined 3' cDNA sequence for N1-1862  
SEQ ID NO: 13 is the determined 5' cDNA sequence for N1-1862  
SEQ ID NO: 14 is the determined 3' cDNA sequence for J1-13  
SEQ ID NO: 15 is the determined 5' cDNA sequence for J1-13  
SEQ ID NO: 16 is the determined 3' cDNA sequence for J1-19  
SEQ ID NO: 17 is the determined 5' cDNA sequence for J1-19  
SEQ ID NO: 18 is the determined 3' cDNA sequence for J1-25  
SEQ ID NO: 19 is the determined 5' cDNA sequence for J1-25  
SEQ ID NO: 20 is the determined 5' cDNA sequence for J1-24  
SEQ ID NO: 21 is the determined 3' cDNA sequence for J1-24  
SEQ ID NO: 22 is the determined 5' cDNA sequence for K1-58  
SEQ ID NO: 23 is the determined 3' cDNA sequence for K1-58  
SEQ ID NO: 24 is the determined 5' cDNA sequence for K1-63  
SEQ ID NO: 25 is the determined 3' cDNA sequence for K1-63  
SEQ ID NO: 26 is the determined 5' cDNA sequence for L1-4  
SEQ ID NO: 27 is the determined 3' cDNA sequence for L1-4  
SEQ ID NO: 28 is the determined 5' cDNA sequence for L1-14  
SEQ ID NO: 29 is the determined 3' cDNA sequence for L1-14  
SEQ ID NO: 30 is the determined 3' cDNA sequence for J1-12  
SEQ ID NO: 31 is the determined 3' cDNA sequence for J1-16  
SEQ ID NO: 32 is the determined 3' cDNA sequence for J1-21  
SEQ ID NO: 33 is the determined 3' cDNA sequence for K1-48  
SEQ ID NO: 34 is the determined 3' cDNA sequence for K1-55  
SEQ ID NO: 35 is the determined 3' cDNA sequence for L1-2  
SEQ ID NO: 36 is the determined 3' cDNA sequence for L1-6  
SEQ ID NO: 37 is the determined 3' cDNA sequence for N1-1858  
SEQ ID NO: 38 is the determined 3' cDNA sequence for N1-1860  
SEQ ID NO: 39 is the determined 3' cDNA sequence for N1-1861

SEQ ID NO: 40 is the determined 3' cDNA sequence for N1-1864  
SEQ ID NO: 41 is the determined cDNA sequence for P5  
SEQ ID NO: 42 is the determined cDNA sequence for P8  
SEQ ID NO: 43 is the determined cDNA sequence for P9  
SEQ ID NO: 44 is the determined cDNA sequence for P18  
SEQ ID NO: 45 is the determined cDNA sequence for P20  
SEQ ID NO: 46 is the determined cDNA sequence for P29  
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SEQ ID NO: 68 is the determined cDNA sequence for P82  
SEQ ID NO: 69 is the determined cDNA sequence for U1-3064  
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SEQ ID NO: 71 is the determined cDNA sequence for V1-3692  
SEQ ID NO: 72 is the determined cDNA sequence for 1A-3905  
SEQ ID NO: 73 is the determined cDNA sequence for V1-3686  
SEQ ID NO: 74 is the determined cDNA sequence for R1-2330  
SEQ ID NO: 75 is the determined cDNA sequence for 1B-3976  
SEQ ID NO: 76 is the determined cDNA sequence for V1-3679

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SEQ ID NO: 82 is the determined cDNA sequence for 1H-4774  
SEQ ID NO: 83 is the determined cDNA sequence for 1H-4781  
SEQ ID NO: 84 is the determined cDNA sequence for 1H-4785  
SEQ ID NO: 85 is the determined cDNA sequence for 1H-4787  
SEQ ID NO: 86 is the determined cDNA sequence for 1H-4796  
SEQ ID NO: 87 is the determined cDNA sequence for 1I-4807  
SEQ ID NO: 88 is the determined cDNA sequence for 1I-4810  
SEQ ID NO: 89 is the determined cDNA sequence for 1I-4811  
SEQ ID NO: 90 is the determined cDNA sequence for 1J-4876  
SEQ ID NO: 91 is the determined cDNA sequence for 1K-4884  
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SEQ ID NO: 107 is the determined full length cDNA sequence for F1-12 (also referred to as P504S)  
SEQ ID NO: 108 is the predicted amino acid sequence for F1-12  
SEQ ID NO: 109 is the determined full length cDNA sequence for J1-17  
SEQ ID NO: 110 is the determined full length cDNA sequence for L1-12  
SEQ ID NO: 111 is the determined full length cDNA sequence for N1-1862  
SEQ ID NO: 112 is the predicted amino acid sequence for J1-17

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SEQ ID NO: 186 is the determined extended cDNA sequence for 1H-4787



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SEQ ID NO: 202 is the determined extended cDNA sequence for 1D-4288  
SEQ ID NO: 203 is the determined extended cDNA sequence for 1D-4283  
SEQ ID NO: 204 is the determined extended cDNA sequence for 1D-4304  
SEQ ID NO: 205 is the determined extended cDNA sequence for 1D-4296  
SEQ ID NO: 206 is the determined extended cDNA sequence for 1D-4280  
SEQ ID NO: 207 is the determined cDNA sequence for 10-d8fwd  
SEQ ID NO: 208 is the determined cDNA sequence for 10-H10con  
SEQ ID NO: 209 is the determined cDNA sequence for 11-C8rev  
SEQ ID NO: 210 is the determined cDNA sequence for 7.g6fwd  
SEQ ID NO: 211 is the determined cDNA sequence for 7.g6rev  
SEQ ID NO: 212 is the determined cDNA sequence for 8-b5fwd  
SEQ ID NO: 213 is the determined cDNA sequence for 8-b5rev  
SEQ ID NO: 214 is the determined cDNA sequence for 8-b6fwd  
SEQ ID NO: 215 is the determined cDNA sequence for 8-b6 rev  
SEQ ID NO: 216 is the determined cDNA sequence for 8-d4fwd  
SEQ ID NO: 217 is the determined cDNA sequence for 8-d9rev  
SEQ ID NO: 218 is the determined cDNA sequence for 8-g3fwd  
SEQ ID NO: 219 is the determined cDNA sequence for 8-g3rev  
SEQ ID NO: 220 is the determined cDNA sequence for 8-h1 1rev  
SEQ ID NO: 221 is the determined cDNA sequence for g-f12fwd  
SEQ ID NO: 222 is the determined cDNA sequence for g-f3rev  
SEQ ID NO: 223 is the determined cDNA sequence for P509S

SEQ ID NO: 224 is the determined cDNA sequence for P510S  
SEQ ID NO: 225 is the determined cDNA sequence for P703DE5  
SEQ ID NO: 226 is the determined cDNA sequence for 9-A11  
SEQ ID NO: 227 is the determined cDNA sequence for 8-C6  
SEQ ID NO: 228 is the determined cDNA sequence for 8-H7  
SEQ ID NO: 229 is the determined cDNA sequence for JPTPN13  
SEQ ID NO: 230 is the determined cDNA sequence for JPTPN14  
SEQ ID NO: 231 is the determined cDNA sequence for JPTPN23  
SEQ ID NO: 232 is the determined cDNA sequence for JPTPN24  
SEQ ID NO: 233 is the determined cDNA sequence for JPTPN25  
SEQ ID NO: 234 is the determined cDNA sequence for JPTPN30  
SEQ ID NO: 235 is the determined cDNA sequence for JPTPN34  
SEQ ID NO: 236 is the determined cDNA sequence for PTPN35  
SEQ ID NO: 237 is the determined cDNA sequence for JPTPN36  
SEQ ID NO: 238 is the determined cDNA sequence for JPTPN38  
SEQ ID NO: 239 is the determined cDNA sequence for JPTPN39  
SEQ ID NO: 240 is the determined cDNA sequence for JPTPN40  
SEQ ID NO: 241 is the determined cDNA sequence for JPTPN41  
SEQ ID NO: 242 is the determined cDNA sequence for JPTPN42  
SEQ ID NO: 243 is the determined cDNA sequence for JPTPN45  
SEQ ID NO: 244 is the determined cDNA sequence for JPTPN46  
SEQ ID NO: 245 is the determined cDNA sequence for JPTPN51  
SEQ ID NO: 246 is the determined cDNA sequence for JPTPN56  
SEQ ID NO: 247 is the determined cDNA sequence for PTPN64  
SEQ ID NO: 248 is the determined cDNA sequence for JPTPN65  
SEQ ID NO: 249 is the determined cDNA sequence for JPTPN67  
SEQ ID NO: 250 is the determined cDNA sequence for JPTPN76  
SEQ ID NO: 251 is the determined cDNA sequence for JPTPN84  
SEQ ID NO: 252 is the determined cDNA sequence for JPTPN85  
SEQ ID NO: 253 is the determined cDNA sequence for JPTPN86  
SEQ ID NO: 254 is the determined cDNA sequence for JPTPN87  
SEQ ID NO: 255 is the determined cDNA sequence for JPTPN88  
SEQ ID NO: 256 is the determined cDNA sequence for JP1F1  
SEQ ID NO: 257 is the determined cDNA sequence for JP1F2  
SEQ ID NO: 258 is the determined cDNA sequence for JP1C2  
SEQ ID NO: 259 is the determined cDNA sequence for JP1B1  
SEQ ID NO: 260 is the determined cDNA sequence for JP1B2

SEQ ID NO: 261 is the determined cDNA sequence for JP1D3  
SEQ ID NO: 262 is the determined cDNA sequence for JP1A4  
SEQ ID NO: 263 is the determined cDNA sequence for JP1F5  
SEQ ID NO: 264 is the determined cDNA sequence for JP1E6  
SEQ ID NO: 265 is the determined cDNA sequence for JP1D6  
SEQ ID NO: 266 is the determined cDNA sequence for JP1B5  
SEQ ID NO: 267 is the determined cDNA sequence for JP1A6  
SEQ ID NO: 268 is the determined cDNA sequence for JP1E8  
SEQ ID NO: 269 is the determined cDNA sequence for JP1D7  
SEQ ID NO: 270 is the determined cDNA sequence for JP1D9  
SEQ ID NO: 271 is the determined cDNA sequence for JP1C10  
SEQ ID NO: 272 is the determined cDNA sequence for JP1A9  
SEQ ID NO: 273 is the determined cDNA sequence for JP1F12  
SEQ ID NO: 274 is the determined cDNA sequence for JP1E12  
SEQ ID NO: 275 is the determined cDNA sequence for JP1D11  
SEQ ID NO: 276 is the determined cDNA sequence for JP1C11  
SEQ ID NO: 277 is the determined cDNA sequence for JP1C12  
SEQ ID NO: 278 is the determined cDNA sequence for JP1B12  
SEQ ID NO: 279 is the determined cDNA sequence for JP1A12  
SEQ ID NO: 280 is the determined cDNA sequence for JP8G2  
SEQ ID NO: 281 is the determined cDNA sequence for JP8H1  
SEQ ID NO: 282 is the determined cDNA sequence for JP8H2  
SEQ ID NO: 283 is the determined cDNA sequence for JP8A3  
SEQ ID NO: 284 is the determined cDNA sequence for JP8A4  
SEQ ID NO: 285 is the determined cDNA sequence for JP8C3  
SEQ ID NO: 286 is the determined cDNA sequence for JP8G4  
SEQ ID NO: 287 is the determined cDNA sequence for JP8B6  
SEQ ID NO: 288 is the determined cDNA sequence for JP8D6  
SEQ ID NO: 289 is the determined cDNA sequence for JP8F5  
SEQ ID NO: 290 is the determined cDNA sequence for JP8A8  
SEQ ID NO: 291 is the determined cDNA sequence for JP8C7  
SEQ ID NO: 292 is the determined cDNA sequence for JP8D7  
SEQ ID NO: 293 is the determined cDNA sequence for P8D8  
SEQ ID NO: 294 is the determined cDNA sequence for JP8E7  
SEQ ID NO: 295 is the determined cDNA sequence for JP8F8  
SEQ ID NO: 296 is the determined cDNA sequence for JP8G8  
SEQ ID NO: 297 is the determined cDNA sequence for JP8B10

SEQ ID NO: 298 is the determined cDNA sequence for JP8C10  
SEQ ID NO: 299 is the determined cDNA sequence for JP8E9  
SEQ ID NO: 300 is the determined cDNA sequence for JP8E10  
SEQ ID NO: 301 is the determined cDNA sequence for JP8F9  
SEQ ID NO: 302 is the determined cDNA sequence for JP8H9  
SEQ ID NO: 303 is the determined cDNA sequence for JP8C12  
SEQ ID NO: 304 is the determined cDNA sequence for JP8E11  
SEQ ID NO: 305 is the determined cDNA sequence for JP8E12  
SEQ ID NO: 306 is the amino acid sequence for the peptide PS2#12  
SEQ ID NO: 307 is the determined cDNA sequence for P711P  
SEQ ID NO: 308 is the determined cDNA sequence for P712P  
SEQ ID NO: 309 is the determined cDNA sequence for CLONE23  
SEQ ID NO: 310 is the determined cDNA sequence for P774P  
SEQ ID NO: 311 is the determined cDNA sequence for P775P  
SEQ ID NO: 312 is the determined cDNA sequence for P715P  
SEQ ID NO: 313 is the determined cDNA sequence for P710P  
SEQ ID NO: 314 is the determined cDNA sequence for P767P  
SEQ ID NO: 315 is the determined cDNA sequence for P768P  
SEQ ID NO: 316-325 are the determined cDNA sequences of previously isolated genes  
SEQ ID NO: 326 is the determined cDNA sequence for P703PDE5  
SEQ ID NO: 327 is the predicted amino acid sequence for P703PDE5  
SEQ ID NO: 328 is the determined cDNA sequence for P703P6.26  
SEQ ID NO: 329 is the predicted amino acid sequence for P703P6.26  
SEQ ID NO: 330 is the determined cDNA sequence for P703PX-23  
SEQ ID NO: 331 is the predicted amino acid sequence for P703PX-23  
SEQ ID NO: 332 is the determined full length cDNA sequence for P509S  
SEQ ID NO: 333 is the determined extended cDNA sequence for P707P (also referred to as 11-C9)  
SEQ ID NO: 334 is the determined cDNA sequence for P714P  
SEQ ID NO: 335 is the determined cDNA sequence for P705P (also referred to as 9-F3)  
SEQ ID NO: 336 is the predicted amino acid sequence for P705P  
SEQ ID NO: 337 is the amino acid sequence of the peptide P1S#10  
SEQ ID NO: 338 is the amino acid sequence of the peptide p5  
SEQ ID NO: 339 is the predicted amino acid sequence of P509S  
SEQ ID NO: 340 is the determined cDNA sequence for P778P  
SEQ ID NO: 341 is the determined cDNA sequence for P786P  
SEQ ID NO: 342 is the determined cDNA sequence for P789P

SEQ ID NO: 343 is the determined cDNA sequence for a clone showing homology to Homo sapiens MM46 mRNA

SEQ ID NO: 344 is the determined cDNA sequence for a clone showing homology to Homo sapiens TNF-alpha stimulated ABC protein (ABC50) mRNA

SEQ ID NO: 345 is the determined cDNA sequence for a clone showing homology to Homo sapiens mRNA for E-cadherin

SEQ ID NO: 346 is the determined cDNA sequence for a clone showing homology to Human nuclear-encoded mitochondrial serine hydroxymethyltransferase (SHMT)

SEQ ID NO: 347 is the determined cDNA sequence for a clone showing homology to Homo sapiens natural resistance-associated macrophage protein2 (NRAMP2)

SEQ ID NO: 348 is the determined cDNA sequence for a clone showing homology to Homo sapiens phosphoglucomutase-related protein (PGMRP)

SEQ ID NO: 349 is the determined cDNA sequence for a clone showing homology to Human mRNA for proteosome subunit p40

SEQ ID NO: 350 is the determined cDNA sequence for P777P

SEQ ID NO: 351 is the determined cDNA sequence for P779P

SEQ ID NO: 352 is the determined cDNA sequence for P790P

SEQ ID NO: 353 is the determined cDNA sequence for P784P

SEQ ID NO: 354 is the determined cDNA sequence for P776P

SEQ ID NO: 355 is the determined cDNA sequence for P780P

SEQ ID NO: 356 is the determined cDNA sequence for P544S

SEQ ID NO: 357 is the determined cDNA sequence for P745S

SEQ ID NO: 358 is the determined cDNA sequence for P782P

SEQ ID NO: 359 is the determined cDNA sequence for P783P

SEQ ID NO: 360 is the determined cDNA sequence for unknown 17984

SEQ ID NO: 361 is the determined cDNA sequence for P787P

SEQ ID NO: 362 is the determined cDNA sequence for P788P

SEQ ID NO: 363 is the determined cDNA sequence for unknown 17994

SEQ ID NO: 364 is the determined cDNA sequence for P781P

SEQ ID NO: 365 is the determined cDNA sequence for P785P

SEQ ID NO: 366-375 are the determined cDNA sequences for splice variants of B305D.

SEQ ID NO: 376 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 366.

SEQ ID NO: 377 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 372.

SEQ ID NO: 378 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 373.

SEQ ID NO: 379 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 374.

SEQ ID NO: 380 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 375.

SEQ ID NO: 381 is the determined cDNA sequence for B716P.

SEQ ID NO: 382 is the determined full-length cDNA sequence for P711P.

SEQ ID NO: 383 is the predicted amino acid sequence for P711P.

SEQ ID NO: 384 is the cDNA sequence for P1000C.

SEQ ID NO: 385 is the cDNA sequence for CGI-82.

SEQ ID NO: 386 is the cDNA sequence for 23320.

SEQ ID NO: 387 is the cDNA sequence for CGI-69.

SEQ ID NO: 388 is the cDNA sequence for L-iditol-2-dehydrogenase.

SEQ ID NO: 389 is the cDNA sequence for 23379.

SEQ ID NO: 390 is the cDNA sequence for 23381.

SEQ ID NO: 391 is the cDNA sequence for KIAA0122.

SEQ ID NO: 392 is the cDNA sequence for 23399.

SEQ ID NO: 393 is the cDNA sequence for a previously identified gene.

SEQ ID NO: 394 is the cDNA sequence for HCLBP.

SEQ ID NO: 395 is the cDNA sequence for transglutaminase.

SEQ ID NO: 396 is the cDNA sequence for a previously identified gene.

SEQ ID NO: 397 is the cDNA sequence for PAP.

SEQ ID NO: 398 is the cDNA sequence for Ets transcription factor PDEF.

SEQ ID NO: 399 is the cDNA sequence for hTGR.

SEQ ID NO: 400 is the cDNA sequence for KIAA0295.

SEQ ID NO: 401 is the cDNA sequence for 22545.

SEQ ID NO: 402 is the cDNA sequence for 22547.

SEQ ID NO: 403 is the cDNA sequence for 22548.

SEQ ID NO: 404 is the cDNA sequence for 22550.

SEQ ID NO: 405 is the cDNA sequence for 22551.

SEQ ID NO: 406 is the cDNA sequence for 22552.

SEQ ID NO: 407 is the cDNA sequence for 22553.

SEQ ID NO: 408 is the cDNA sequence for 22558.

SEQ ID NO: 409 is the cDNA sequence for 22562.

SEQ ID NO: 410 is the cDNA sequence for 22565.

SEQ ID NO: 411 is the cDNA sequence for 22567.

SEQ ID NO: 412 is the cDNA sequence for 22568.

SEQ ID NO: 413 is the cDNA sequence for 22570.

SEQ ID NO:414 is the cDNA sequence for 22571.  
SEQ ID NO:415 is the cDNA sequence for 22572.  
SEQ ID NO:416 is the cDNA sequence for 22573.  
SEQ ID NO:417 is the cDNA sequence for 22573.  
SEQ ID NO:418 is the cDNA sequence for 22575.  
SEQ ID NO:419 is the cDNA sequence for 22580.  
SEQ ID NO:420 is the cDNA sequence for 22581.  
SEQ ID NO:421 is the cDNA sequence for 22582.  
SEQ ID NO:422 is the cDNA sequence for 22583.  
SEQ ID NO:423 is the cDNA sequence for 22584.  
SEQ ID NO:424 is the cDNA sequence for 22585.  
SEQ ID NO:425 is the cDNA sequence for 22586.  
SEQ ID NO:426 is the cDNA sequence for 22587.  
SEQ ID NO:427 is the cDNA sequence for 22588.  
SEQ ID NO:428 is the cDNA sequence for 22589.  
SEQ ID NO:429 is the cDNA sequence for 22590.  
SEQ ID NO:430 is the cDNA sequence for 22591.  
SEQ ID NO:431 is the cDNA sequence for 22592.  
SEQ ID NO:432 is the cDNA sequence for 22593.  
SEQ ID NO:433 is the cDNA sequence for 22594.  
SEQ ID NO:434 is the cDNA sequence for 22595.  
SEQ ID NO:435 is the cDNA sequence for 22596.  
SEQ ID NO:436 is the cDNA sequence for 22847.  
SEQ ID NO:437 is the cDNA sequence for 22848.  
SEQ ID NO:438 is the cDNA sequence for 22849.  
SEQ ID NO:439 is the cDNA sequence for 22851.  
SEQ ID NO:440 is the cDNA sequence for 22852.  
SEQ ID NO:441 is the cDNA sequence for 22853.  
SEQ ID NO:442 is the cDNA sequence for 22854.  
SEQ ID NO:443 is the cDNA sequence for 22855.  
SEQ ID NO:444 is the cDNA sequence for 22856.  
SEQ ID NO:445 is the cDNA sequence for 22857.  
SEQ ID NO:446 is the cDNA sequence for 23601.  
SEQ ID NO:447 is the cDNA sequence for 23602.  
SEQ ID NO:448 is the cDNA sequence for 23605.  
SEQ ID NO:449 is the cDNA sequence for 23606.  
SEQ ID NO:450 is the cDNA sequence for 23612.

SEQ ID NO:451 is the cDNA sequence for 23614.

SEQ ID NO:452 is the cDNA sequence for 23618.

SEQ ID NO:453 is the cDNA sequence for 23622.

SEQ ID NO:454 is the cDNA sequence for folate hydrolase.

SEQ ID NO:455 is the cDNA sequence for LIM protein.

SEQ ID NO:456 is the cDNA sequence for a known gene.

SEQ ID NO:457 is the cDNA sequence for a known gene.

SEQ ID NO:458 is the cDNA sequence for a previously identified gene.

SEQ ID NO:459 is the cDNA sequence for 23045.

SEQ ID NO:460 is the cDNA sequence for 23032.

SEQ ID NO:461 is the cDNA sequence for 23054.

SEQ ID NOs:462-467 are cDNA sequences for known genes.

SEQ ID NOs:468-471 are cDNA sequences for P710P.

SEQ ID NO:472 is a cDNA sequence for P1001C.

#### DETAILED DESCRIPTION OF THE INVENTION

As noted above, the present invention is generally directed to compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer. The compositions described herein may include prostate tumor polypeptides, polynucleotides encoding such polypeptides, binding agents such as antibodies, antigen presenting cells (APCs) and/or immune system cells (*e.g.*, T cells). Polypeptides of the present invention generally comprise at least a portion (such as an immunogenic portion) of a prostate tumor protein or a variant thereof. A "prostate tumor protein" is a protein that is expressed in prostate tumor cells at a level that is at least two fold, and preferably at least five fold, greater than the level of expression in a normal tissue, as determined using a representative assay provided herein. Certain prostate tumor proteins are tumor proteins that react detectably (within an immunoassay, such as an ELISA or Western blot) with antisera of a patient afflicted with prostate cancer. Polynucleotides of the subject invention generally comprise a DNA or RNA sequence that encodes all or a portion of such a polypeptide, or that is complementary to such a sequence. Antibodies are generally immune system proteins, or antigen-binding fragments thereof, that are capable of binding to a polypeptide as described above. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B-cells that express a polypeptide as described above. T cells that may be employed within such compositions are generally T cells that are specific for a polypeptide as described above.



The present invention is based on the discovery of human prostate tumor proteins. Sequences of polynucleotides encoding certain tumor proteins, or portions thereof, are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472. Sequences of polypeptides comprising at least a portion of a tumor protein are provided in SEQ ID NOs:112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380 and 383.

#### PROSTATE TUMOR PROTEIN POLYNUCLEOTIDES

Any polynucleotide that encodes a prostate tumor protein or a portion or other variant thereof as described herein is encompassed by the present invention. Preferred polynucleotides comprise at least 15 consecutive nucleotides, preferably at least 30 consecutive nucleotides and more preferably at least 45 consecutive nucleotides, that encode a portion of a prostate tumor protein. More preferably, a polynucleotide encodes an immunogenic portion of a prostate tumor protein. Polynucleotides complementary to any such sequences are also encompassed by the present invention. Polynucleotides may be single-stranded (coding or antisense) or double-stranded, and may be DNA (genomic, cDNA or synthetic) or RNA molecules. RNA molecules include HnRNA molecules, which contain introns and correspond to a DNA molecule in a one-to-one manner, and mRNA molecules, which do not contain introns. Additional coding or non-coding sequences may, but need not, be present within a polynucleotide of the present invention, and a polynucleotide may, but need not, be linked to other molecules and/or support materials.

Polynucleotides may comprise a native sequence (*i.e.*, an endogenous sequence that encodes a prostate tumor protein or a portion thereof) or may comprise a variant of such a sequence. Polynucleotide variants may contain one or more substitutions, additions, deletions and/or insertions such that the immunogenicity of the encoded polypeptide is not diminished, relative to a native tumor protein. The effect on the immunogenicity of the encoded polypeptide may generally be assessed as described herein. Variants preferably exhibit at least about 70% identity, more preferably at least about 80% identity and most preferably at least about 90% identity to a polynucleotide sequence that encodes a native prostate tumor protein or a portion thereof.

Two polynucleotide or polypeptide sequences are said to be "identical" if the sequence of nucleotides or amino acids in the two sequences is the same when aligned for maximum correspondence as described below. Comparisons between two sequences are typically performed by comparing the sequences over a comparison window to identify and compare local regions of sequence similarity. A "comparison window" as used herein, refers to a segment of at least about 20 contiguous positions, usually 30 to about 75, 40 to about 50,

in which a sequence may be compared to a reference sequence of the same number of contiguous positions after the two sequences are optimally aligned.

Optimal alignment of sequences for comparison may be conducted using the Megalign program in the Lasergene suite of bioinformatics software (DNASTAR, Inc., Madison, WI), using default parameters. This program embodies several alignment schemes described in the following references: Dayhoff, M.O. (1978) A model of evolutionary change in proteins – Matrices for detecting distant relationships. In Dayhoff, M.O. (ed.) *Atlas of Protein Sequence and Structure*, National Biomedical Research Foundation, Washington DC Vol. 5, Suppl. 3, pp. 345-358; Hein J. (1990) Unified Approach to Alignment and Phylogenesis pp. 626-645 *Methods in Enzymology* vol. 183, Academic Press, Inc., San Diego, CA; Higgins, D.G. and Sharp, P.M. (1989) *CABIOS* 5:151-153; Myers, E.W. and Muller W. (1988) *CABIOS* 4:11-17; Robinson, E.D. (1971) *Comb. Theor* 11:105; Santou, N. Nes, M. (1987) *Mol. Biol. Evol.* 4:406-425; Sneath, P.H.A. and Sokal, R.R. (1973) *Numerical Taxonomy – the Principles and Practice of Numerical Taxonomy*, Freeman Press, San Francisco, CA; Wilbur, W.J. and Lipman, D.J. (1983) *Proc. Natl. Acad., Sci. USA* 80:726-730.

Preferably, the “percentage of sequence identity” is determined by comparing two optimally aligned sequences over a window of comparison of at least 20 positions, wherein the portion of the polynucleotide or polypeptide sequence in the comparison window may comprise additions or deletions (*i.e.*, gaps) of 20 percent or less, usually 5 to 15 percent, or 10 to 12 percent, as compared to the reference sequences (which does not comprise additions or deletions) for optimal alignment of the two sequences. The percentage is calculated by determining the number of positions at which the identical nucleic acid bases or amino acid residue occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the reference sequence (*i.e.*, the window size) and multiplying the results by 100 to yield the percentage of sequence identity.

Variants may also, or alternatively, be substantially homologous to a native gene, or a portion or complement thereof. Such polynucleotide variants are capable of hybridizing under moderately stringent conditions to a naturally occurring DNA sequence encoding a native prostate tumor protein (or a complementary sequence). Suitable moderately stringent conditions include prewashing in a solution of 5 X SSC, 0.5% SDS, 1.0 mM EDTA (pH 8.0); hybridizing at 50°C-65°C, 5 X SSC, overnight; followed by washing twice at 65°C for 20 minutes with each of 2X, 0.5X and 0.2X SSC containing 0.1% SDS.

It will be appreciated by those of ordinary skill in the art that, as a result of the degeneracy of the genetic code, there are many nucleotide sequences that encode a polypeptide as described herein. Some of these polynucleotides bear minimal homology to

the nucleotide sequence of any native gene. Nonetheless, polynucleotides that vary due to differences in codon usage are specifically contemplated by the present invention. Further, alleles of the genes comprising the polynucleotide sequences provided herein are within the scope of the present invention. Alleles are endogenous genes that are altered as a result of one or more mutations, such as deletions, additions and/or substitutions of nucleotides. The resulting mRNA and protein may, but need not, have an altered structure or function. Alleles may be identified using standard techniques (such as hybridization, amplification and/or database sequence comparison).

Polynucleotides may be prepared using any of a variety of techniques. For example, a polynucleotide may be identified, as described in more detail below, by screening a microarray of cDNAs for tumor-associated expression (*i.e.*, expression that is at least five fold greater in a prostate tumor than in normal tissue, as determined using a representative assay provided herein). Such screens may be performed using a Synteni microarray (Palo Alto, CA) according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Alternatively, polypeptides may be amplified from cDNA prepared from cells expressing the proteins described herein, such as prostate tumor cells. Such polynucleotides may be amplified via polymerase chain reaction (PCR). For this approach, sequence-specific primers may be designed based on the sequences provided herein, and may be purchased or synthesized.

An amplified portion may be used to isolate a full length gene from a suitable library (*e.g.*, a prostate tumor cDNA library) using well known techniques. Within such techniques, a library (cDNA or genomic) is screened using one or more polynucleotide probes or primers suitable for amplification. Preferably, a library is size-selected to include larger molecules. Random primed libraries may also be preferred for identifying 5' and upstream regions of genes. Genomic libraries are preferred for obtaining introns and extending 5' sequences.

For hybridization techniques, a partial sequence may be labeled (*e.g.*, by nick-translation or end-labeling with  $^{32}\text{P}$ ) using well known techniques. A bacterial or bacteriophage library is then screened by hybridizing filters containing denatured bacterial colonies (or lawns containing phage plaques) with the labeled probe (*see* Sambrook et al., *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY, 1989). Hybridizing colonies or plaques are selected and expanded, and the DNA is isolated for further analysis. cDNA clones may be analyzed to determine the amount of additional sequence by, for example, PCR using a primer from the partial sequence and a primer from the vector. Restriction maps and partial sequences may be generated to identify one or more overlapping clones. The complete sequence may then be determined using

standard techniques, which may involve generating a series of deletion clones. The resulting overlapping sequences are then assembled into a single contiguous sequence. A full length cDNA molecule can be generated by ligating suitable fragments, using well known techniques.

Alternatively, there are numerous amplification techniques for obtaining a full length coding sequence from a partial cDNA sequence. Within such techniques, amplification is generally performed via PCR. Any of a variety of commercially available kits may be used to perform the amplification step. Primers may be designed using, for example, software well known in the art. Primers are preferably 22-30 nucleotides in length, have a GC content of at least 50% and anneal to the target sequence at temperatures of about 68°C to 72°C. The amplified region may be sequenced as described above, and overlapping sequences assembled into a contiguous sequence.

One such amplification technique is inverse PCR (*see* Triglia et al., *Nucl. Acids Res.* 16:8186, 1988), which uses restriction enzymes to generate a fragment in the known region of the gene. The fragment is then circularized by intramolecular ligation and used as a template for PCR with divergent primers derived from the known region. Within an alternative approach, sequences adjacent to a partial sequence may be retrieved by amplification with a primer to a linker sequence and a primer specific to a known region. The amplified sequences are typically subjected to a second round of amplification with the same linker primer and a second primer specific to the known region. A variation on this procedure, which employs two primers that initiate extension in opposite directions from the known sequence, is described in WO 96/38591. Another such technique is known as "rapid amplification of cDNA ends" or RACE. This technique involves the use of an internal primer and an external primer, which hybridizes to a polyA region or vector sequence, to identify sequences that are 5' and 3' of a known sequence. Additional techniques include capture PCR (Lagerstrom et al., *PCR Methods Applic.* 1:111-19, 1991) and walking PCR (Parker et al., *Nucl. Acids Res.* 19:3055-60, 1991). Other methods employing amplification may also be employed to obtain a full length cDNA sequence.

In certain instances, it is possible to obtain a full length cDNA sequence by analysis of sequences provided in an expressed sequence tag (EST) database, such as that available from GenBank. Searches for overlapping ESTs may generally be performed using well known programs (*e.g.*, NCBI BLAST searches), and such ESTs may be used to generate a contiguous full length sequence.

Certain nucleic acid sequences of cDNA molecules encoding at least a portion of a prostate tumor protein are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472. Isolation of these

polynucleotides is described below. Each of these prostate tumor proteins was overexpressed in prostate tumor tissue.

Polynucleotide variants may generally be prepared by any method known in the art, including chemical synthesis by, for example, solid phase phosphoramidite chemical synthesis. Modifications in a polynucleotide sequence may also be introduced using standard mutagenesis techniques, such as oligonucleotide-directed site-specific mutagenesis (*see* Adelman et al., *DNA* 2:183, 1983). Alternatively, RNA molecules may be generated by *in vitro* or *in vivo* transcription of DNA sequences encoding a prostate tumor protein, or portion thereof, provided that the DNA is incorporated into a vector with a suitable RNA polymerase promoter (such as T7 or SP6). Certain portions may be used to prepare an encoded polypeptide, as described herein. In addition, or alternatively, a portion may be administered to a patient such that the encoded polypeptide is generated *in vivo* (e.g., by transfecting antigen-presenting cells, such as dendritic cells, with a cDNA construct encoding a prostate tumor polypeptide, and administering the transfected cells to the patient).

A portion of a sequence complementary to a coding sequence (*i.e.*, an antisense polynucleotide) may also be used as a probe or to modulate gene expression. cDNA constructs that can be transcribed into antisense RNA may also be introduced into cells of tissues to facilitate the production of antisense RNA. An antisense polynucleotide may be used, as described herein, to inhibit expression of a tumor protein. Antisense technology can be used to control gene expression through triple-helix formation, which compromises the ability of the double helix to open sufficiently for the binding of polymerases, transcription factors or regulatory molecules (*see* Gee et al., *In Huber and Carr, Molecular and Immunologic Approaches*, Futura Publishing Co. (Mt. Kisco, NY; 1994)). Alternatively, an antisense molecule may be designed to hybridize with a control region of a gene (e.g., promoter, enhancer or transcription initiation site), and block transcription of the gene; or to block translation by inhibiting binding of a transcript to ribosomes.

A portion of a coding sequence, or of a complementary sequence, may also be designed as a probe or primer to detect gene expression. Probes may be labeled with a variety of reporter groups, such as radionuclides and enzymes, and are preferably at least 10 nucleotides in length, more preferably at least 20 nucleotides in length and still more preferably at least 30 nucleotides in length. Primers, as noted above, are preferably 22-30 nucleotides in length.

Any polynucleotide may be further modified to increase stability *in vivo*. Possible modifications include, but are not limited to, the addition of flanking sequences at the 5' and/or 3' ends; the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages in the backbone; and/or the inclusion of nontraditional bases such

as inosine, queosine and wybutosine, as well as acetyl- methyl-, thio- and other modified forms of adenine, cytidine, guanine, thymine and uridine.

Nucleotide sequences as described herein may be joined to a variety of other nucleotide sequences using established recombinant DNA techniques. For example, a polynucleotide may be cloned into any of a variety of cloning vectors, including plasmids, phagemids, lambda phage derivatives and cosmids. Vectors of particular interest include expression vectors, replication vectors, probe generation vectors and sequencing vectors. In general, a vector will contain an origin of replication functional in at least one organism, convenient restriction endonuclease sites and one or more selectable markers. Other elements will depend upon the desired use, and will be apparent to those of ordinary skill in the art.

Within certain embodiments, polynucleotides may be formulated so as to permit entry into a cell of a mammal, and expression therein. Such formulations are particularly useful for therapeutic purposes, as described below. Those of ordinary skill in the art will appreciate that there are many ways to achieve expression of a polynucleotide in a target cell, and any suitable method may be employed. For example, a polynucleotide may be incorporated into a viral vector such as, but not limited to, adenovirus, adeno-associated virus, retrovirus, or vaccinia or other pox virus (*e.g.*, avian pox virus). Techniques for incorporating DNA into such vectors are well known to those of ordinary skill in the art. A retroviral vector may additionally transfer or incorporate a gene for a selectable marker (to aid in the identification or selection of transduced cells) and/or a targeting moiety, such as a gene that encodes a ligand for a receptor on a specific target cell, to render the vector target specific. Targeting may also be accomplished using an antibody, by methods known to those of ordinary skill in the art.

Other formulations for therapeutic purposes include colloidal dispersion systems, such as macromolecule complexes, nanocapsules, microspheres, beads, and lipid-based systems including oil-in-water emulsions, micelles, mixed micelles, and liposomes. A preferred colloidal system for use as a delivery vehicle *in vitro* and *in vivo* is a liposome (*i.e.*, an artificial membrane vesicle). The preparation and use of such systems is well known in the art.

#### PROSTATE TUMOR POLYPEPTIDES

Within the context of the present invention, polypeptides may comprise at least an immunogenic portion of a prostate tumor protein or a variant thereof, as described herein. As noted above, a "prostate tumor protein" is a protein that is expressed by prostate tumor cells. Proteins that are prostate tumor proteins also react detectably within an immunoassay (such as an ELISA) with antisera from a patient with prostate cancer. Polypeptides as described herein may be of any length. Additional sequences derived from

the native protein and/or heterologous sequences may be present, and such sequences may (but need not) possess further immunogenic or antigenic properties.

An "immunogenic portion," as used herein is a portion of a protein that is recognized (*i.e.*, specifically bound) by a B-cell and/or T-cell surface antigen receptor. Such immunogenic portions generally comprise at least 5 amino acid residues, more preferably at least 10, and still more preferably at least 20 amino acid residues of a prostate tumor protein or a variant thereof. Certain preferred immunogenic portions include peptides in which an N-terminal leader sequence and/or transmembrane domain have been deleted. Other preferred immunogenic portions may contain a small N- and/or C-terminal deletion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids), relative to the mature protein.

Immunogenic portions may generally be identified using well known techniques, such as those summarized in Paul, *Fundamental Immunology*, 3rd ed., 243-247 (Raven Press, 1993) and references cited therein. Such techniques include screening polypeptides for the ability to react with antigen-specific antibodies, antisera and/or T-cell lines or clones. As used herein, antisera and antibodies are "antigen-specific" if they specifically bind to an antigen (*i.e.*, they react with the protein in an ELISA or other immunoassay, and do not react detectably with unrelated proteins). Such antisera and antibodies may be prepared as described herein, and using well known techniques. An immunogenic portion of a native prostate tumor protein is a portion that reacts with such antisera and/or T-cells at a level that is not substantially less than the reactivity of the full length polypeptide (*e.g.*, in an ELISA and/or T-cell reactivity assay). Such immunogenic portions may react within such assays at a level that is similar to or greater than the reactivity of the full length polypeptide. Such screens may generally be performed using methods well known to those of ordinary skill in the art, such as those described in Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. For example, a polypeptide may be immobilized on a solid support and contacted with patient sera to allow binding of antibodies within the sera to the immobilized polypeptide. Unbound sera may then be removed and bound antibodies detected using, for example, <sup>125</sup>I-labeled Protein A.

As noted above, a composition may comprise a variant of a native prostate tumor protein. A polypeptide "variant," as used herein, is a polypeptide that differs from a native prostate tumor protein in one or more substitutions, deletions, additions and/or insertions, such that the immunogenicity of the polypeptide is not substantially diminished. In other words, the ability of a variant to react with antigen-specific antisera may be enhanced or unchanged, relative to the native protein, or may be diminished by less than 50%, and preferably less than 20%, relative to the native protein. Such variants may generally be identified by modifying one of the above polypeptide sequences and evaluating the reactivity of the modified polypeptide with antigen-specific antibodies or antisera as described herein.

Preferred variants include those in which one or more portions, such as an N-terminal leader sequence or transmembrane domain, have been removed. Other preferred variants include variants in which a small portion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids) has been removed from the N- and/or C-terminal of the mature protein. Polypeptide variants preferably exhibit at least about 70%, more preferably at least about 90% and most preferably at least about 95% identity (determined as described above) to the identified polypeptides.

Preferably, a variant contains conservative substitutions. A "conservative substitution" is one in which an amino acid is substituted for another amino acid that has similar properties, such that one skilled in the art of peptide chemistry would expect the secondary structure and hydrophobic nature of the polypeptide to be substantially unchanged. Amino acid substitutions may generally be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity and/or the amphipathic nature of the residues. For example, negatively charged amino acids include aspartic acid and glutamic acid; positively charged amino acids include lysine and arginine; and amino acids with uncharged polar head groups having similar hydrophilicity values include leucine, isoleucine and valine; glycine and alanine; asparagine and glutamine; and serine, threonine, phenylalanine and tyrosine. Other groups of amino acids that may represent conservative changes include: (1) ala, pro, gly, glu, asp, gln, asn, ser, thr; (2) cys, ser, tyr, thr; (3) val, ile, leu, met, ala, phe; (4) lys, arg, his; and (5) phe, tyr, trp, his. A variant may also, or alternatively, contain nonconservative changes. In a preferred embodiment, variant polypeptides differ from a native sequence by substitution, deletion or addition of five amino acids or fewer. Variants may also (or alternatively) be modified by, for example, the deletion or addition of amino acids that have minimal influence on the immunogenicity, secondary structure and hydrophobic nature of the polypeptide.

As noted above, polypeptides may comprise a signal (or leader) sequence at the N-terminal end of the protein which co-translationally or post-translationally directs transfer of the protein. The polypeptide may also be conjugated to a linker or other sequence for ease of synthesis, purification or identification of the polypeptide (*e.g.*, poly-His), or to enhance binding of the polypeptide to a solid support. For example, a polypeptide may be conjugated to an immunoglobulin Fc region.

Polypeptides may be prepared using any of a variety of well known techniques. Recombinant polypeptides encoded by DNA sequences as described above may be readily prepared from the DNA sequences using any of a variety of expression vectors known to those of ordinary skill in the art. Expression may be achieved in any appropriate host cell that has been transformed or transfected with an expression vector containing a DNA molecule that encodes a recombinant polypeptide. Suitable host cells include prokaryotes, yeast and higher eukaryotic cells. Preferably, the host cells employed are



*E. coli*, yeast or a mammalian cell line such as COS or CHO. Supernatants from suitable host/vector systems which secrete recombinant protein or polypeptide into culture media may be first concentrated using a commercially available filter. Following concentration, the concentrate may be applied to a suitable purification matrix such as an affinity matrix or an ion exchange resin. Finally, one or more reverse phase HPLC steps can be employed to further purify a recombinant polypeptide.

Portions and other variants having fewer than about 100 amino acids, and generally fewer than about 50 amino acids, may also be generated by synthetic means, using techniques well known to those of ordinary skill in the art. For example, such polypeptides may be synthesized using any of the commercially available solid-phase techniques, such as the Merrifield solid-phase synthesis method, where amino acids are sequentially added to a growing amino acid chain. See Merrifield, *J. Am. Chem. Soc.* 85:2149-2146, 1963. Equipment for automated synthesis of polypeptides is commercially available from suppliers such as Perkin Elmer/Applied BioSystems Division (Foster City, CA), and may be operated according to the manufacturer's instructions.

Within certain specific embodiments, a polypeptide may be a fusion protein that comprises multiple polypeptides as described herein, or that comprises at least one polypeptide as described herein and an unrelated sequence, such as a known tumor protein. A fusion partner may, for example, assist in providing T helper epitopes (an immunological fusion partner), preferably T helper epitopes recognized by humans, or may assist in expressing the protein (an expression enhancer) at higher yields than the native recombinant protein. Certain preferred fusion partners are both immunological and expression enhancing fusion partners. Other fusion partners may be selected so as to increase the solubility of the protein or to enable the protein to be targeted to desired intracellular compartments. Still further fusion partners include affinity tags, which facilitate purification of the protein.

Fusion proteins may generally be prepared using standard techniques, including chemical conjugation. Preferably, a fusion protein is expressed as a recombinant protein, allowing the production of increased levels, relative to a non-fused protein, in an expression system. Briefly, DNA sequences encoding the polypeptide components may be assembled separately, and ligated into an appropriate expression vector. The 3' end of the DNA sequence encoding one polypeptide component is ligated, with or without a peptide linker, to the 5' end of a DNA sequence encoding the second polypeptide component so that the reading frames of the sequences are in phase. This permits translation into a single fusion protein that retains the biological activity of both component polypeptides.

A peptide linker sequence may be employed to separate the first and the second polypeptide components by a distance sufficient to ensure that each polypeptide folds into its secondary and tertiary structures. Such a peptide linker sequence is incorporated into

the fusion protein using standard techniques well known in the art. Suitable peptide linker sequences may be chosen based on the following factors: (1) their ability to adopt a flexible extended conformation; (2) their inability to adopt a secondary structure that could interact with functional epitopes on the first and second polypeptides; and (3) the lack of hydrophobic or charged residues that might react with the polypeptide functional epitopes. Preferred peptide linker sequences contain Gly, Asn and Ser residues. Other near neutral amino acids, such as Thr and Ala may also be used in the linker sequence. Amino acid sequences which may be usefully employed as linkers include those disclosed in Maratea et al., *Gene* 40:39-46, 1985; Murphy et al., *Proc. Natl. Acad. Sci. USA* 83:8258-8262, 1986; U.S. Patent No. 4,935,233 and U.S. Patent No. 4,751,180. The linker sequence may generally be from 1 to about 50 amino acids in length. Linker sequences are not required when the first and second polypeptides have non-essential N-terminal amino acid regions that can be used to separate the functional domains and prevent steric interference.

The ligated DNA sequences are operably linked to suitable transcriptional or translational regulatory elements. The regulatory elements responsible for expression of DNA are located only 5' to the DNA sequence encoding the first polypeptides. Similarly, stop codons required to end translation and transcription termination signals are only present 3' to the DNA sequence encoding the second polypeptide.

Fusion proteins are also provided that comprise a polypeptide of the present invention together with an unrelated immunogenic protein. Preferably the immunogenic protein is capable of eliciting a recall response. Examples of such proteins include tetanus, tuberculosis and hepatitis proteins (*see, for example, Stoute et al. New Engl. J. Med.*, 336:86-91, 1997).

Within preferred embodiments, an immunological fusion partner is derived from protein D, a surface protein of the gram-negative bacterium *Haemophilus influenza B* (WO 91/18926). Preferably, a protein D derivative comprises approximately the first third of the protein (*e.g.*, the first N-terminal 100-110 amino acids), and a protein D derivative may be lipidated. Within certain preferred embodiments, the first 109 residues of a Lipoprotein D fusion partner is included on the N-terminus to provide the polypeptide with additional exogenous T-cell epitopes and to increase the expression level in *E. coli* (thus functioning as an expression enhancer). The lipid tail ensures optimal presentation of the antigen to antigen presenting cells. Other fusion partners include the non-structural protein from influenzae virus, NS1 (hemagglutinin). Typically, the N-terminal 81 amino acids are used, although different fragments that include T-helper epitopes may be used.

In another embodiment, the immunological fusion partner is the protein known as LYTA, or a portion thereof (preferably a C-terminal portion). LYTA is derived from *Streptococcus pneumoniae*, which synthesizes an N-acetyl-L-alanine amidase known as

amidase LYTA (encoded by the *LytA* gene; *Gene* 43:265-292, 1986). LYTA is an autolysin that specifically degrades certain bonds in the peptidoglycan backbone. The C-terminal domain of the LYTA protein is responsible for the affinity to the choline or to some choline analogues such as DEAE. This property has been exploited for the development of *E. coli* C-LYTA expressing plasmids useful for expression of fusion proteins. Purification of hybrid proteins containing the C-LYTA fragment at the amino terminus has been described (*see Biotechnology* 10:795-798, 1992). Within a preferred embodiment, a repeat portion of LYTA may be incorporated into a fusion protein. A repeat portion is found in the C-terminal region starting at residue 178. A particularly preferred repeat portion incorporates residues 188-305.

In general, polypeptides (including fusion proteins) and polynucleotides as described herein are isolated. An "isolated" polypeptide or polynucleotide is one that is removed from its original environment. For example, a naturally-occurring protein is isolated if it is separated from some or all of the coexisting materials in the natural system. Preferably, such polypeptides are at least about 90% pure, more preferably at least about 95% pure and most preferably at least about 99% pure. A polynucleotide is considered to be isolated if, for example, it is cloned into a vector that is not a part of the natural environment.

#### BINDING AGENTS

The present invention further provides agents, such as antibodies and antigen-binding fragments thereof, that specifically bind to a prostate tumor protein. As used herein, an antibody, or antigen-binding fragment thereof, is said to "specifically bind" to a prostate tumor protein if it reacts at a detectable level (within, for example, an ELISA) with a prostate tumor protein, and does not react detectably with unrelated proteins under similar conditions. As used herein, "binding" refers to a noncovalent association between two separate molecules such that a complex is formed. The ability to bind may be evaluated by, for example, determining a binding constant for the formation of the complex. The binding constant is the value obtained when the concentration of the complex is divided by the product of the component concentrations. In general, two compounds are said to "bind," in the context of the present invention, when the binding constant for complex formation exceeds about  $10^3$  L/mol. The binding constant may be determined using methods well known in the art.

Binding agents may be further capable of differentiating between patients with and without a cancer, such as prostate cancer, using the representative assays provided herein. In other words, antibodies or other binding agents that bind to a prostate tumor protein will generate a signal indicating the presence of a cancer in at least about 20% of patients with the disease, and will generate a negative signal indicating the absence of the disease in at least about 90% of individuals without the cancer. To determine whether a binding agent satisfies this requirement, biological samples (*e.g.*, blood, sera, urine and/or tumor biopsies) from

patients with and without a cancer (as determined using standard clinical tests) may be assayed as described herein for the presence of polypeptides that bind to the binding agent. It will be apparent that a statistically significant number of samples with and without the disease should be assayed. Each binding agent should satisfy the above criteria; however, those of ordinary skill in the art will recognize that binding agents may be used in combination to improve sensitivity.

Any agent that satisfies the above requirements may be a binding agent. For example, a binding agent may be a ribosome, with or without a peptide component, an RNA molecule or a polypeptide. In a preferred embodiment, a binding agent is an antibody or an antigen-binding fragment thereof. Antibodies may be prepared by any of a variety of techniques known to those of ordinary skill in the art. *See, e.g., Harlow and Lane, Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, antibodies can be produced by cell culture techniques, including the generation of monoclonal antibodies as described herein, or via transfection of antibody genes into suitable bacterial or mammalian cell hosts, in order to allow for the production of recombinant antibodies. In one technique, an immunogen comprising the polypeptide is initially injected into any of a wide variety of mammals (*e.g., mice, rats, rabbits, sheep or goats*). In this step, the polypeptides of this invention may serve as the immunogen without modification. Alternatively, particularly for relatively short polypeptides, a superior immune response may be elicited if the polypeptide is joined to a carrier protein, such as bovine serum albumin or keyhole limpet hemocyanin. The immunogen is injected into the animal host, preferably according to a predetermined schedule incorporating one or more booster immunizations, and the animals are bled periodically. Polyclonal antibodies specific for the polypeptide may then be purified from such antisera by, for example, affinity chromatography using the polypeptide coupled to a suitable solid support.

Monoclonal antibodies specific for an antigenic polypeptide of interest may be prepared, for example, using the technique of Kohler and Milstein, *Eur. J. Immunol.* 6:511-519, 1976, and improvements thereto. Briefly, these methods involve the preparation of immortal cell lines capable of producing antibodies having the desired specificity (*i.e., reactivity with the polypeptide of interest*). Such cell lines may be produced, for example, from spleen cells obtained from an animal immunized as described above. The spleen cells are then immortalized by, for example, fusion with a myeloma cell fusion partner, preferably one that is syngeneic with the immunized animal. A variety of fusion techniques may be employed. For example, the spleen cells and myeloma cells may be combined with a nonionic detergent for a few minutes and then plated at low density on a selective medium that supports the growth of hybrid cells, but not myeloma cells. A preferred selection technique uses HAT (hypoxanthine, aminopterin, thymidine) selection. After a sufficient

time, usually about 1 to 2 weeks, colonies of hybrids are observed. Single colonies are selected and their culture supernatants tested for binding activity against the polypeptide. Hybridomas having high reactivity and specificity are preferred.

Monoclonal antibodies may be isolated from the supernatants of growing hybridoma colonies. In addition, various techniques may be employed to enhance the yield, such as injection of the hybridoma cell line into the peritoneal cavity of a suitable vertebrate host, such as a mouse. Monoclonal antibodies may then be harvested from the ascites fluid or the blood. Contaminants may be removed from the antibodies by conventional techniques, such as chromatography, gel filtration, precipitation, and extraction. The polypeptides of this invention may be used in the purification process in, for example, an affinity chromatography step.

Within certain embodiments, the use of antigen-binding fragments of antibodies may be preferred. Such fragments include Fab fragments, which may be prepared using standard techniques. Briefly, immunoglobulins may be purified from rabbit serum by affinity chromatography on Protein A bead columns (Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988) and digested by papain to yield Fab and Fc fragments. The Fab and Fc fragments may be separated by affinity chromatography on protein A bead columns.

Monoclonal antibodies of the present invention may be coupled to one or more therapeutic agents. Suitable agents in this regard include radionuclides, differentiation inducers, drugs, toxins, and derivatives thereof. Preferred radionuclides include  $^{90}\text{Y}$ ,  $^{123}\text{I}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{186}\text{Re}$ ,  $^{188}\text{Re}$ ,  $^{211}\text{At}$ , and  $^{212}\text{Bi}$ . Preferred drugs include methotrexate, and pyrimidine and purine analogs. Preferred differentiation inducers include phorbol esters and butyric acid. Preferred toxins include ricin, abrin, diphtheria toxin, cholera toxin, gelonin, *Pseudomonas* exotoxin, Shigella toxin, and pokeweed antiviral protein.

A therapeutic agent may be coupled (e.g., covalently bonded) to a suitable monoclonal antibody either directly or indirectly (e.g., via a linker group). A direct reaction between an agent and an antibody is possible when each possesses a substituent capable of reacting with the other. For example, a nucleophilic group, such as an amino or sulfhydryl group, on one may be capable of reacting with a carbonyl-containing group, such as an anhydride or an acid halide, or with an alkyl group containing a good leaving group (e.g., a halide) on the other.

Alternatively, it may be desirable to couple a therapeutic agent and an antibody via a linker group. A linker group can function as a spacer to distance an antibody from an agent in order to avoid interference with binding capabilities. A linker group can also serve to increase the chemical reactivity of a substituent on an agent or an antibody, and

thus increase the coupling efficiency. An increase in chemical reactivity may also facilitate the use of agents, or functional groups on agents, which otherwise would not be possible.

It will be evident to those skilled in the art that a variety of bifunctional or polyfunctional reagents, both homo- and hetero-functional (such as those described in the catalog of the Pierce Chemical Co., Rockford, IL), may be employed as the linker group. Coupling may be effected, for example, through amino groups, carboxyl groups, sulfhydryl groups or oxidized carbohydrate residues. There are numerous references describing such methodology, *e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.

Where a therapeutic agent is more potent when free from the antibody portion of the immunoconjugates of the present invention, it may be desirable to use a linker group which is cleavable during or upon internalization into a cell. A number of different cleavable linker groups have been described. The mechanisms for the intracellular release of an agent from these linker groups include cleavage by reduction of a disulfide bond (*e.g.*, U.S. Patent No. 4,489,710, to Spitler); by irradiation of a photolabile bond (*e.g.*, U.S. Patent No. 4,625,014, to Senter et al.), by hydrolysis of derivatized amino acid side chains (*e.g.*, U.S. Patent No. 4,638,045, to Kohn et al.), by serum complement-mediated hydrolysis (*e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.), and acid-catalyzed hydrolysis (*e.g.*, U.S. Patent No. 4,569,789, to Blattler et al.).

It may be desirable to couple more than one agent to an antibody. In one embodiment, multiple molecules of an agent are coupled to one antibody molecule. In another embodiment, more than one type of agent may be coupled to one antibody. Regardless of the particular embodiment, immunoconjugates with more than one agent may be prepared in a variety of ways. For example, more than one agent may be coupled directly to an antibody molecule, or linkers which provide multiple sites for attachment can be used. Alternatively, a carrier can be used.

A carrier may bear the agents in a variety of ways, including covalent bonding either directly or via a linker group. Suitable carriers include proteins such as albumins (*e.g.*, U.S. Patent No. 4,507,234, to Kato et al.), peptides and polysaccharides such as aminodextran (*e.g.*, U.S. Patent No. 4,699,784, to Shih et al.). A carrier may also bear an agent by noncovalent bonding or by encapsulation, such as within a liposome vesicle (*e.g.*, U.S. Patent Nos. 4,429,008 and 4,873,088). Carriers specific for radionuclide agents include radiohalogenated small molecules and chelating compounds. For example, U.S. Patent No. 4,735,792 discloses representative radiohalogenated small molecules and their synthesis. A radionuclide chelate may be formed from chelating compounds that include those containing nitrogen and sulfur atoms as the donor atoms for binding the metal, or metal oxide, radionuclide. For example, U.S. Patent No. 4,673,562, to Davison et al. discloses representative chelating compounds and their synthesis.

A variety of routes of administration for the antibodies and immunoconjugates may be used. Typically, administration will be intravenous, intramuscular, subcutaneous or in the bed of a resected tumor. It will be evident that the precise dose of the antibody/immunoconjugate will vary depending upon the antibody used, the antigen density on the tumor, and the rate of clearance of the antibody.

#### T CELLS

Immunotherapeutic compositions may also, or alternatively, comprise T cells specific for a prostate tumor protein. Such cells may generally be prepared *in vitro* or *ex vivo*, using standard procedures. For example, T cells may be isolated from bone marrow, peripheral blood, or a fraction of bone marrow or peripheral blood of a patient, using a commercially available cell separation system, such as the CEPRATE™ system, available from CellPro Inc., Bothell WA (*see also* U.S. Patent No. 5,240,856; U.S. Patent No. 5,215,926; WO 89/06280; WO 91/16116 and WO 92/07243). Alternatively, T cells may be derived from related or unrelated humans, non-human mammals, cell lines or cultures.

T cells may be stimulated with a prostate tumor polypeptide, polynucleotide encoding a prostate tumor polypeptide and/or an antigen presenting cell (APC) that expresses such a polypeptide. Such stimulation is performed under conditions and for a time sufficient to permit the generation of T cells that are specific for the polypeptide. Preferably, a prostate tumor polypeptide or polynucleotide is present within a delivery vehicle, such as a microsphere, to facilitate the generation of specific T cells.

T cells are considered to be specific for a prostate tumor polypeptide if the T cells kill target cells coated with the polypeptide or expressing a gene encoding the polypeptide. T cell specificity may be evaluated using any of a variety of standard techniques. For example, within a chromium release assay or proliferation assay, a stimulation index of more than two fold increase in lysis and/or proliferation, compared to negative controls, indicates T cell specificity. Such assays may be performed, for example, as described in Chen et al., *Cancer Res.* 54:1065-1070, 1994. Alternatively, detection of the proliferation of T cells may be accomplished by a variety of known techniques. For example, T cell proliferation can be detected by measuring an increased rate of DNA synthesis (*e.g.*, by pulse-labeling cultures of T cells with tritiated thymidine and measuring the amount of tritiated thymidine incorporated into DNA). Contact with a prostate tumor polypeptide (100 ng/ml - 100 µg/ml, preferably 200 ng/ml - 25 µg/ml) for 3 - 7 days should result in at least a two fold increase in proliferation of the T cells. Contact as described above for 2-3 hours should result in activation of the T cells, as measured using standard cytokine assays in which a two fold increase in the level of cytokine release (*e.g.*, TNF or IFN-γ) is indicative of T cell activation (*see* Coligan et al., *Current Protocols in Immunology*, vol. 1, Wiley Interscience

(Greene 1998)). T cells that have been activated in response to a prostate tumor polypeptide, polynucleotide or polypeptide-expressing APC may be CD4<sup>+</sup> and/or CD8<sup>+</sup>. Prostate tumor protein-specific T cells may be expanded using standard techniques. Within preferred embodiments, the T cells are derived from either a patient or a related, or unrelated, donor and are administered to the patient following stimulation and expansion.

For therapeutic purposes, CD4<sup>+</sup> or CD8<sup>+</sup> T cells that proliferate in response to a prostate tumor polypeptide, polynucleotide or APC can be expanded in number either *in vitro* or *in vivo*. Proliferation of such T cells *in vitro* may be accomplished in a variety of ways. For example, the T cells can be re-exposed to a prostate tumor polypeptide, or a short peptide corresponding to an immunogenic portion of such a polypeptide, with or without the addition of T cell growth factors, such as interleukin-2, and/or stimulator cells that synthesize a prostate tumor polypeptide. Alternatively, one or more T cells that proliferate in the presence of a prostate tumor protein can be expanded in number by cloning. Methods for cloning cells are well known in the art, and include limiting dilution.

#### PHARMACEUTICAL COMPOSITIONS AND VACCINES

Within certain aspects, polypeptides, polynucleotides, T cells and/or binding agents disclosed herein may be incorporated into pharmaceutical compositions or immunogenic compositions (*i.e.*, vaccines). Pharmaceutical compositions comprise one or more such compounds and a physiologically acceptable carrier. Vaccines may comprise one or more such compounds and a non-specific immune response enhancer. A non-specific immune response enhancer may be any substance that enhances an immune response to an exogenous antigen. Examples of non-specific immune response enhancers include adjuvants, biodegradable microspheres (*e.g.*, polylactic galactide) and liposomes (into which the compound is incorporated; *see e.g.*, Fullerton, U.S. Patent No. 4,235,877). Vaccine preparation is generally described in, for example, M.F. Powell and M.J. Newman, eds., "Vaccine Design (the subunit and adjuvant approach)," Plenum Press (NY, 1995). Pharmaceutical compositions and vaccines within the scope of the present invention may also contain other compounds, which may be biologically active or inactive. For example, one or more immunogenic portions of other tumor antigens may be present, either incorporated into a fusion polypeptide or as a separate compound, within the composition or vaccine.

A pharmaceutical composition or vaccine may contain DNA encoding one or more of the polypeptides as described above, such that the polypeptide is generated *in situ*. As noted above, the DNA may be present within any of a variety of delivery systems known to those of ordinary skill in the art, including nucleic acid expression systems, bacteria and viral expression systems. Numerous gene delivery techniques are well known in the art, such as those described by Rolland, *Crit. Rev. Therap. Drug Carrier Systems* 15:143-198, 1998,



and references cited therein. Appropriate nucleic acid expression systems contain the necessary DNA sequences for expression in the patient (such as a suitable promoter and terminating signal). Bacterial delivery systems involve the administration of a bacterium (such as *Bacillus-Calmette-Guerrin*) that expresses an immunogenic portion of the polypeptide on its cell surface or secretes such an epitope. In a preferred embodiment, the DNA may be introduced using a viral expression system (e.g., vaccinia or other pox virus, retrovirus, or adenovirus), which may involve the use of a non-pathogenic (defective), replication competent virus. Suitable systems are disclosed, for example, in Fisher-Hoch et al., *Proc. Natl. Acad. Sci. USA* 86:317-321, 1989; Flexner et al., *Ann. N.Y. Acad. Sci.* 569:86-103, 1989; Flexner et al., *Vaccine* 8:17-21, 1990; U.S. Patent Nos. 4,603,112, 4,769,330, and 5,017,487; WO 89/01973; U.S. Patent No. 4,777,127; GB 2,200,651; EP 0,345,242; WO 91/02805; Berkner, *Biotechniques* 6:616-627, 1988; Rosenfeld et al., *Science* 252:431-434, 1991; Kolls et al., *Proc. Natl. Acad. Sci. USA* 91:215-219, 1994; Kass-Eisler et al., *Proc. Natl. Acad. Sci. USA* 90:11498-11502, 1993; Guzman et al., *Circulation* 88:2838-2848, 1993; and Guzman et al., *Cir. Res.* 73:1202-1207, 1993. Techniques for incorporating DNA into such expression systems are well known to those of ordinary skill in the art. The DNA may also be "naked," as described, for example, in Ulmer et al., *Science* 259:1745-1749, 1993 and reviewed by Cohen, *Science* 259:1691-1692, 1993. The uptake of naked DNA may be increased by coating the DNA onto biodegradable beads, which are efficiently transported into the cells.

While any suitable carrier known to those of ordinary skill in the art may be employed in the pharmaceutical compositions of this invention, the type of carrier will vary depending on the mode of administration. Compositions of the present invention may be formulated for any appropriate manner of administration, including for example, topical, oral, nasal, intravenous, intracranial, intraperitoneal, subcutaneous or intramuscular administration. For parenteral administration, such as subcutaneous injection, the carrier preferably comprises water, saline, alcohol, a fat, a wax or a buffer. For oral administration, any of the above carriers or a solid carrier, such as mannitol, lactose, starch, magnesium stearate, sodium saccharine, talcum, cellulose, glucose, sucrose, and magnesium carbonate, may be employed. Biodegradable microspheres (e.g., polylactate polyglycolate) may also be employed as carriers for the pharmaceutical compositions of this invention. Suitable biodegradable microspheres are disclosed, for example, in U.S. Patent Nos. 4,897,268 and 5,075,109.

Such compositions may also comprise buffers (e.g., neutral buffered saline or phosphate buffered saline), carbohydrates (e.g., glucose, mannose, sucrose or dextrans), mannitol, proteins, polypeptides or amino acids such as glycine, antioxidants, chelating agents such as EDTA or glutathione, adjuvants (e.g., aluminum hydroxide) and/or

preservatives. Alternatively, compositions of the present invention may be formulated as a lyophilizate. Compounds may also be encapsulated within liposomes using well known technology.

Any of a variety of non-specific immune response enhancers may be employed in the vaccines of this invention. For example, an adjuvant may be included. Most adjuvants contain a substance designed to protect the antigen from rapid catabolism, such as aluminum hydroxide or mineral oil, and a stimulator of immune responses, such as lipid A, *Bordetella pertussis* or *Mycobacterium tuberculosis* derived proteins. Suitable adjuvants are commercially available as, for example, Freund's Incomplete Adjuvant and Complete Adjuvant (Difco Laboratories, Detroit, MI); Merck Adjuvant 65 (Merck and Company, Inc., Rahway, NJ); aluminum salts such as aluminum hydroxide gel (alum) or aluminum phosphate; salts of calcium, iron or zinc; an insoluble suspension of acylated tyrosine; acylated sugars; cationically or anionically derivatized polysaccharides; polyphosphazenes; biodegradable microspheres; monophosphoryl lipid A and quil A. Cytokines, such as GM-CSF or interleukin-2, -7, or -12, may also be used as adjuvants.

Within the vaccines provided herein, the adjuvant composition is preferably designed to induce an immune response predominantly of the Th1 type. High levels of Th1-type cytokines (e.g., IFN- $\gamma$ , IL-2 and IL-12) tend to favor the induction of cell mediated immune responses to an administered antigen. In contrast, high levels of Th2-type cytokines (e.g., IL-4, IL-5, IL-6, IL-10 and TNF- $\beta$ ) tend to favor the induction of humoral immune responses. Following application of a vaccine as provided herein, a patient will support an immune response that includes Th1- and Th2-type responses. Within a preferred embodiment, in which a response is predominantly Th1-type, the level of Th1-type cytokines will increase to a greater extent than the level of Th2-type cytokines. The levels of these cytokines may be readily assessed using standard assays. For a review of the families of cytokines, see Mosmann and Coffman, *Ann. Rev. Immunol.* 7:145-173, 1989.

Preferred adjuvants for use in eliciting a predominantly Th1-type response include, for example, a combination of monophosphoryl lipid A, preferably 3-de-O-acylated monophosphoryl lipid A (3D-MPL), together with an aluminum salt. MPL adjuvants are available from Ribi ImmunoChem Research Inc. (Hamilton, MT; see US Patent Nos. 4,436,727; 4,877,611; 4,866,034 and 4,912,094). CpG-containing oligonucleotides (in which the CpG dinucleotide is unmethylated) also induce a predominantly Th1 response. Such oligonucleotides are well known and are described, for example, in WO 96/02555. Another preferred adjuvant is a saponin, preferably QS21, which may be used alone or in combination with other adjuvants. For example, an enhanced system involves the combination of a monophosphoryl lipid A and saponin derivative, such as the combination of QS21 and 3D-MPL as described in WO 94/00153, or a less reactogenic composition where the QS21 is

quenched with cholesterol, as described in WO 96/33739. Other preferred formulations comprises an oil-in-water emulsion and tocopherol. A particularly potent adjuvant formulation involving QS21, 3D-MPL and tocopherol in an oil-in-water emulsion is described in WO 95/17210. Any vaccine provided herein may be prepared using well known methods that result in a combination of antigen, immune response enhancer and a suitable carrier or excipient.

The compositions described herein may be administered as part of a sustained release formulation (*i.e.*, a formulation such as a capsule or sponge that effects a slow release of compound following administration). Such formulations may generally be prepared using well known technology and administered by, for example, oral, rectal or subcutaneous implantation, or by implantation at the desired target site. Sustained-release formulations may contain a polypeptide, polynucleotide or antibody dispersed in a carrier matrix and/or contained within a reservoir surrounded by a rate controlling membrane. Carriers for use within such formulations are biocompatible, and may also be biodegradable; preferably the formulation provides a relatively constant level of active component release. The amount of active compound contained within a sustained release formulation depends upon the site of implantation, the rate and expected duration of release and the nature of the condition to be treated or prevented.

Any of a variety of delivery vehicles may be employed within pharmaceutical compositions and vaccines to facilitate production of an antigen-specific immune response that targets tumor cells. Delivery vehicles include antigen presenting cells (APCs), such as dendritic cells, macrophages, B cells, monocytes and other cells that may be engineered to be efficient APCs. Such cells may, but need not, be genetically modified to increase the capacity for presenting the antigen, to improve activation and/or maintenance of the T cell response, to have anti-tumor effects *per se* and/or to be immunologically compatible with the receiver (*i.e.*, matched HLA haplotype). APCs may generally be isolated from any of a variety of biological fluids and organs, including tumor and peritumoral tissues, and may be autologous, allogeneic, syngeneic or xenogeneic cells.

Certain preferred embodiments of the present invention use dendritic cells or progenitors thereof as antigen-presenting cells. Dendritic cells are highly potent APCs (Banchereau and Steinman, *Nature* 392:245-251, 1998) and have been shown to be effective as a physiological adjuvant for eliciting prophylactic or therapeutic antitumor immunity (*see* Timmerman and Levy, *Ann. Rev. Med.* 50:507-529, 1999). In general, dendritic cells may be identified based on their typical shape (stellate *in situ*, with marked cytoplasmic processes (dendrites) visible *in vitro*) and based on the lack of differentiation markers of B cells (CD19 and CD20), T cells (CD3), monocytes (CD14) and natural killer cells (CD56), as determined using standard assays. Dendritic cells may, of course, be engineered to express specific cell-

surface receptors or ligands that are not commonly found on dendritic cells *in vivo* or *ex vivo*, and such modified dendritic cells are contemplated by the present invention. As an alternative to dendritic cells, secreted vesicles antigen-loaded dendritic cells (called exosomes) may be used within a vaccine (see Zitvogel et al., *Nature Med.* 4:594-600, 1998).

Dendritic cells and progenitors may be obtained from peripheral blood, bone marrow, tumor-infiltrating cells, peritumoral tissues-infiltrating cells, lymph nodes, spleen, skin, umbilical cord blood or any other suitable tissue or fluid. For example, dendritic cells may be differentiated *ex vivo* by adding a combination of cytokines such as GM-CSF, IL-4, IL-13 and/or TNF $\alpha$  to cultures of monocytes harvested from peripheral blood. Alternatively, CD34 positive cells harvested from peripheral blood, umbilical cord blood or bone marrow may be differentiated into dendritic cells by adding to the culture medium combinations of GM-CSF, IL-3, TNF $\alpha$ , CD40 ligand, LPS, flt3 ligand and/or other compound(s) that induce maturation and proliferation of dendritic cells.

Dendritic cells are conveniently categorized as "immature" and "mature" cells, which allows a simple way to discriminate between two well characterized phenotypes. However, this nomenclature should not be construed to exclude all possible intermediate stages of differentiation. Immature dendritic cells are characterized as APC with a high capacity for antigen uptake and processing, which correlates with the high expression of Fc $\gamma$  receptor, mannose receptor and DEC-205 marker. The mature phenotype is typically characterized by a lower expression of these markers, but a high expression of cell surface molecules responsible for T cell activation such as class I and class II MHC, adhesion molecules (e.g., CD54 and CD11) and costimulatory molecules (e.g., CD40, CD80 and CD86).

APCs may generally be transfected with a polynucleotide encoding a prostate tumor protein (or portion or other variant thereof) such that the prostate tumor polypeptide, or an immunogenic portion thereof, is expressed on the cell surface. Such transfection may take place *ex vivo*, and a composition or vaccine comprising such transfected cells may then be used for therapeutic purposes, as described herein. Alternatively, a gene delivery vehicle that targets a dendritic or other antigen presenting cell may be administered to a patient, resulting in transfection that occurs *in vivo*. *In vivo* and *ex vivo* transfection of dendritic cells, for example, may generally be performed using any methods known in the art, such as those described in WO 97/24447, or the gene gun approach described by Mahvi et al., *Immunology and cell Biology* 75:456-460, 1997. Antigen loading of dendritic cells may be achieved by incubating dendritic cells or progenitor cells with the prostate tumor polypeptide, DNA (naked or within a plasmid vector) or RNA; or with antigen-expressing recombinant bacterium or viruses (e.g., vaccinia, fowlpox, adenovirus or lentivirus vectors). Prior to loading, the polypeptide may be covalently conjugated to an immunological partner that

provides T cell help (e.g., a carrier molecule). Alternatively, a dendritic cell may be pulsed with a non-conjugated immunological partner, separately or in the presence of the polypeptide.

#### CANCER THERAPY

In further aspects of the present invention, the compositions described herein may be used for immunotherapy of cancer, such as prostate cancer. Within such methods, pharmaceutical compositions and vaccines are typically administered to a patient. As used herein, a "patient" refers to any warm-blooded animal, preferably a human. A patient may or may not be afflicted with cancer. Accordingly, the above pharmaceutical compositions and vaccines may be used to prevent the development of a cancer or to treat a patient afflicted with a cancer. A cancer may be diagnosed using criteria generally accepted in the art, including the presence of a malignant tumor. Pharmaceutical compositions and vaccines may be administered either prior to or following surgical removal of primary tumors and/or treatment such as administration of radiotherapy or conventional chemotherapeutic drugs.

Within certain embodiments, immunotherapy may be active immunotherapy, in which treatment relies on the *in vivo* stimulation of the endogenous host immune system to react against tumors with the administration of immune response-modifying agents (such as polypeptides and polynucleotides disclosed herein).

Within other embodiments, immunotherapy may be passive immunotherapy, in which treatment involves the delivery of agents with established tumor-immune reactivity (such as effector cells or antibodies) that can directly or indirectly mediate antitumor effects and does not necessarily depend on an intact host immune system. Examples of effector cells include T cells as discussed above, T lymphocytes (such as CD8<sup>+</sup> cytotoxic T lymphocytes and CD4<sup>+</sup> T-helper tumor-infiltrating lymphocytes), killer cells (such as Natural Killer cells and lymphokine-activated killer cells), B cells and antigen-presenting cells (such as dendritic cells and macrophages) expressing a polypeptide provided herein. T cell receptors and antibody receptors specific for the polypeptides recited herein may be cloned, expressed and transferred into other vectors or effector cells for adoptive immunotherapy. The polypeptides provided herein may also be used to generate antibodies or anti-idiotypic antibodies (as described above and in U.S. Patent No. 4,918,164) for passive immunotherapy.

Effector cells may generally be obtained in sufficient quantities for adoptive immunotherapy by growth *in vitro*, as described herein. Culture conditions for expanding single antigen-specific effector cells to several billion in number with retention of antigen recognition *in vivo* are well known in the art. Such *in vitro* culture conditions typically use intermittent stimulation with antigen, often in the presence of cytokines (such as IL-2) and non-dividing feeder cells. As noted above, immunoreactive polypeptides as provided herein

may be used to rapidly expand antigen-specific T cell cultures in order to generate a sufficient number of cells for immunotherapy. In particular, antigen-presenting cells, such as dendritic, macrophage, monocyte, fibroblast or B cells, may be pulsed with immunoreactive polypeptides or transfected with one or more polynucleotides using standard techniques well known in the art. For example, antigen-presenting cells can be transfected with a polynucleotide having a promoter appropriate for increasing expression in a recombinant virus or other expression system. Cultured effector cells for use in therapy must be able to grow and distribute widely, and to survive long term *in vivo*. Studies have shown that cultured effector cells can be induced to grow *in vivo* and to survive long term in substantial numbers by repeated stimulation with antigen supplemented with IL-2 (*see, for example, Cheever et al., Immunological Reviews 157:177, 1997*).

Alternatively, a vector expressing a polypeptide recited herein may be introduced into antigen presenting cells taken from a patient and clonally propagated *ex vivo* for transplant back into the same patient. Transfected cells may be reintroduced into the patient using any means known in the art, preferably in sterile form by intravenous, intracavitary, intraperitoneal or intratumor administration.

Routes and frequency of administration of the therapeutic compositions disclosed herein, as well as dosage, will vary from individual to individual, and may be readily established using standard techniques. In general, the pharmaceutical compositions and vaccines may be administered by injection (*e.g.*, intracutaneous, intramuscular, intravenous or subcutaneous), intranasally (*e.g.*, by aspiration) or orally. Preferably, between 1 and 10 doses may be administered over a 52 week period. Preferably, 6 doses are administered, at intervals of 1 month, and booster vaccinations may be given periodically thereafter. Alternate protocols may be appropriate for individual patients. A suitable dose is an amount of a compound that, when administered as described above, is capable of promoting an anti-tumor immune response, and is at least 10-50% above the basal (*i.e.*, untreated) level. Such response can be monitored by measuring the anti-tumor antibodies in a patient or by vaccine-dependent generation of cytolytic effector cells capable of killing the patient's tumor cells *in vitro*. Such vaccines should also be capable of causing an immune response that leads to an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial or longer disease-free survival) in vaccinated patients as compared to non-vaccinated patients. In general, for pharmaceutical compositions and vaccines comprising one or more polypeptides, the amount of each polypeptide present in a dose ranges from about 100  $\mu$ g to 5 mg per kg of host. Suitable dose sizes will vary with the size of the patient, but will typically range from about 0.1 mL to about 5 mL.

In general, an appropriate dosage and treatment regimen provides the active compound(s) in an amount sufficient to provide therapeutic and/or prophylactic benefit. Such

a response can be monitored by establishing an improved clinical outcome (e.g., more frequent remissions, complete or partial, or longer disease-free survival) in treated patients as compared to non-treated patients. Increases in preexisting immune responses to a prostate tumor protein generally correlate with an improved clinical outcome. Such immune responses may generally be evaluated using standard proliferation, cytotoxicity or cytokine assays, which may be performed using samples obtained from a patient before and after treatment.

#### METHODS FOR DETECTING CANCER

In general, a cancer may be detected in a patient based on the presence of one or more prostate tumor proteins and/or polynucleotides encoding such proteins in a biological sample (for example, blood, sera, urine and/or tumor biopsies) obtained from the patient. In other words, such proteins may be used as markers to indicate the presence or absence of a cancer such as prostate cancer. In addition, such proteins may be useful for the detection of other cancers. The binding agents provided herein generally permit detection of the level of antigen that binds to the agent in the biological sample. Polynucleotide primers and probes may be used to detect the level of mRNA encoding a tumor protein, which is also indicative of the presence or absence of a cancer. In general, a prostate tumor sequence should be present at a level that is at least three fold higher in tumor tissue than in normal tissue.

There are a variety of assay formats known to those of ordinary skill in the art for using a binding agent to detect polypeptide markers in a sample. See, e.g., Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, the presence or absence of a cancer in a patient may be determined by (a) contacting a biological sample obtained from a patient with a binding agent; (b) detecting in the sample a level of polypeptide that binds to the binding agent; and (c) comparing the level of polypeptide with a predetermined cut-off value.

In a preferred embodiment, the assay involves the use of binding agent immobilized on a solid support to bind to and remove the polypeptide from the remainder of the sample. The bound polypeptide may then be detected using a detection reagent that contains a reporter group and specifically binds to the binding agent/polypeptide complex. Such detection reagents may comprise, for example, a binding agent that specifically binds to the polypeptide or an antibody or other agent that specifically binds to the binding agent, such as an anti-immunoglobulin, protein G, protein A or a lectin. Alternatively, a competitive assay may be utilized, in which a polypeptide is labeled with a reporter group and allowed to bind to the immobilized binding agent after incubation of the binding agent with the sample. The extent to which components of the sample inhibit the binding of the labeled polypeptide to the binding agent is indicative of the reactivity of the sample with the immobilized binding

agent. Suitable polypeptides for use within such assays include full length prostate tumor proteins and portions thereof to which the binding agent binds, as described above.

The solid support may be any material known to those of ordinary skill in the art to which the tumor protein may be attached. For example, the solid support may be a test well in a microtiter plate or a nitrocellulose or other suitable membrane. Alternatively, the support may be a bead or disc, such as glass, fiberglass, latex or a plastic material such as polystyrene or polyvinylchloride. The support may also be a magnetic particle or a fiber optic sensor, such as those disclosed, for example, in U.S. Patent No. 5,359,681. The binding agent may be immobilized on the solid support using a variety of techniques known to those of skill in the art, which are amply described in the patent and scientific literature. In the context of the present invention, the term "immobilization" refers to both noncovalent association, such as adsorption, and covalent attachment (which may be a direct linkage between the agent and functional groups on the support or may be a linkage by way of a cross-linking agent). Immobilization by adsorption to a well in a microtiter plate or to a membrane is preferred. In such cases, adsorption may be achieved by contacting the binding agent, in a suitable buffer, with the solid support for a suitable amount of time. The contact time varies with temperature, but is typically between about 1 hour and about 1 day. In general, contacting a well of a plastic microtiter plate (such as polystyrene or polyvinylchloride) with an amount of binding agent ranging from about 10 ng to about 10  $\mu$ g, and preferably about 100 ng to about 1  $\mu$ g, is sufficient to immobilize an adequate amount of binding agent.

Covalent attachment of binding agent to a solid support may generally be achieved by first reacting the support with a bifunctional reagent that will react with both the support and a functional group, such as a hydroxyl or amino group, on the binding agent. For example, the binding agent may be covalently attached to supports having an appropriate polymer coating using benzoquinone or by condensation of an aldehyde group on the support with an amine and an active hydrogen on the binding partner (*see, e.g.,* Pierce Immunotechnology Catalog and Handbook, 1991, at A12-A13).

In certain embodiments, the assay is a two-antibody sandwich assay. This assay may be performed by first contacting an antibody that has been immobilized on a solid support, commonly the well of a microtiter plate, with the sample, such that polypeptides within the sample are allowed to bind to the immobilized antibody. Unbound sample is then removed from the immobilized polypeptide-antibody complexes and a detection reagent (preferably a second antibody capable of binding to a different site on the polypeptide) containing a reporter group is added. The amount of detection reagent that remains bound to the solid support is then determined using a method appropriate for the specific reporter group.



More specifically, once the antibody is immobilized on the support as described above, the remaining protein binding sites on the support are typically blocked. Any suitable blocking agent known to those of ordinary skill in the art, such as bovine serum albumin or Tween 20™ (Sigma Chemical Co., St. Louis, MO). The immobilized antibody is then incubated with the sample, and polypeptide is allowed to bind to the antibody. The sample may be diluted with a suitable diluent, such as phosphate-buffered saline (PBS) prior to incubation. In general, an appropriate contact time (*i.e.*, incubation time) is a period of time that is sufficient to detect the presence of polypeptide within a sample obtained from an individual with prostate cancer. Preferably, the contact time is sufficient to achieve a level of binding that is at least about 95% of that achieved at equilibrium between bound and unbound polypeptide. Those of ordinary skill in the art will recognize that the time necessary to achieve equilibrium may be readily determined by assaying the level of binding that occurs over a period of time. At room temperature, an incubation time of about 30 minutes is generally sufficient.

Unbound sample may then be removed by washing the solid support with an appropriate buffer, such as PBS containing 0.1% Tween 20™. The second antibody, which contains a reporter group, may then be added to the solid support. Preferred reporter groups include those groups recited above.

The detection reagent is then incubated with the immobilized antibody-polypeptide complex for an amount of time sufficient to detect the bound polypeptide. An appropriate amount of time may generally be determined by assaying the level of binding that occurs over a period of time. Unbound detection reagent is then removed and bound detection reagent is detected using the reporter group. The method employed for detecting the reporter group depends upon the nature of the reporter group. For radioactive groups, scintillation counting or autoradiographic methods are generally appropriate. Spectroscopic methods may be used to detect dyes, luminescent groups and fluorescent groups. Biotin may be detected using avidin, coupled to a different reporter group (commonly a radioactive or fluorescent group or an enzyme). Enzyme reporter groups may generally be detected by the addition of substrate (generally for a specific period of time), followed by spectroscopic or other analysis of the reaction products.

To determine the presence or absence of a cancer, such as prostate cancer, the signal detected from the reporter group that remains bound to the solid support is generally compared to a signal that corresponds to a predetermined cut-off value. In one preferred embodiment, the cut-off value for the detection of a cancer is the average mean signal obtained when the immobilized antibody is incubated with samples from patients without the cancer. In general, a sample generating a signal that is three standard deviations above the predetermined cut-off value is considered positive for the cancer. In an alternate preferred

embodiment, the cut-off value is determined using a Receiver Operator Curve, according to the method of Sackett et al., *Clinical Epidemiology: A Basic Science for Clinical Medicine*, Little Brown and Co., 1985, p. 106-7. Briefly, in this embodiment, the cut-off value may be determined from a plot of pairs of true positive rates (*i.e.*, sensitivity) and false positive rates (100%-specificity) that correspond to each possible cut-off value for the diagnostic test result. The cut-off value on the plot that is the closest to the upper left-hand corner (*i.e.*, the value that encloses the largest area) is the most accurate cut-off value, and a sample generating a signal that is higher than the cut-off value determined by this method may be considered positive. Alternatively, the cut-off value may be shifted to the left along the plot, to minimize the false positive rate, or to the right, to minimize the false negative rate. In general, a sample generating a signal that is higher than the cut-off value determined by this method is considered positive for a cancer.

In a related embodiment, the assay is performed in a flow-through or strip test format, wherein the binding agent is immobilized on a membrane, such as nitrocellulose. In the flow-through test, polypeptides within the sample bind to the immobilized binding agent as the sample passes through the membrane. A second, labeled binding agent then binds to the binding agent-polypeptide complex as a solution containing the second binding agent flows through the membrane. The detection of bound second binding agent may then be performed as described above. In the strip test format, one end of the membrane to which binding agent is bound is immersed in a solution containing the sample. The sample migrates along the membrane through a region containing second binding agent and to the area of immobilized binding agent. Concentration of second binding agent at the area of immobilized antibody indicates the presence of a cancer. Typically, the concentration of second binding agent at that site generates a pattern, such as a line, that can be read visually. The absence of such a pattern indicates a negative result. In general, the amount of binding agent immobilized on the membrane is selected to generate a visually discernible pattern when the biological sample contains a level of polypeptide that would be sufficient to generate a positive signal in the two-antibody sandwich assay, in the format discussed above. Preferred binding agents for use in such assays are antibodies and antigen-binding fragments thereof. Preferably, the amount of antibody immobilized on the membrane ranges from about 25 ng to about 1  $\mu$ g, and more preferably from about 50 ng to about 500 ng. Such tests can typically be performed with a very small amount of biological sample.

Of course, numerous other assay protocols exist that are suitable for use with the tumor proteins or binding agents of the present invention. The above descriptions are intended to be exemplary only. For example, it will be apparent to those of ordinary skill in the art that the above protocols may be readily modified to use prostate tumor polypeptides to

detect antibodies that bind to such polypeptides in a biological sample. The detection of such prostate tumor protein specific antibodies may correlate with the presence of a cancer.

A cancer may also, or alternatively, be detected based on the presence of T cells that specifically react with a prostate tumor protein in a biological sample. Within certain methods, a biological sample comprising CD4<sup>+</sup> and/or CD8<sup>+</sup> T cells isolated from a patient is incubated with a prostate tumor polypeptide, a polynucleotide encoding such a polypeptide and/or an APC that expresses at least an immunogenic portion of such a polypeptide, and the presence or absence of specific activation of the T cells is detected. Suitable biological samples include, but are not limited to, isolated T cells. For example, T cells may be isolated from a patient by routine techniques (such as by Ficoll/Hypaque density gradient centrifugation of peripheral blood lymphocytes). T cells may be incubated *in vitro* for 2-9 days (typically 4 days) at 37°C with prostate tumor polypeptide (*e.g.*, 5 - 25 µg/ml). It may be desirable to incubate another aliquot of a T cell sample in the absence of prostate tumor polypeptide to serve as a control. For CD4<sup>+</sup> T cells, activation is preferably detected by evaluating proliferation of the T cells. For CD8<sup>+</sup> T cells, activation is preferably detected by evaluating cytolytic activity. A level of proliferation that is at least two fold greater and/or a level of cytolytic activity that is at least 20% greater than in disease-free patients indicates the presence of a cancer in the patient.

As noted above, a cancer may also, or alternatively, be detected based on the level of mRNA encoding a prostate tumor protein in a biological sample. For example, at least two oligonucleotide primers may be employed in a polymerase chain reaction (PCR) based assay to amplify a portion of a prostate tumor cDNA derived from a biological sample, wherein at least one of the oligonucleotide primers is specific for (*i.e.*, hybridizes to) a polynucleotide encoding the prostate tumor protein. The amplified cDNA is then separated and detected using techniques well known in the art, such as gel electrophoresis. Similarly, oligonucleotide probes that specifically hybridize to a polynucleotide encoding a prostate tumor protein may be used in a hybridization assay to detect the presence of polynucleotide encoding the tumor protein in a biological sample.

To permit hybridization under assay conditions, oligonucleotide primers and probes should comprise an oligonucleotide sequence that has at least about 60%, preferably at least about 75% and more preferably at least about 90%, identity to a portion of a polynucleotide encoding a prostate tumor protein that is at least 10 nucleotides, and preferably at least 20 nucleotides, in length. Preferably, oligonucleotide primers and/or probes will hybridize to a polynucleotide encoding a polypeptide disclosed herein under moderately stringent conditions, as defined above. Oligonucleotide primers and/or probes which may be usefully employed in the diagnostic methods described herein preferably are at least 10-40 nucleotides in length. In a preferred embodiment, the oligonucleotide primers

comprise at least 10 contiguous nucleotides, more preferably at least 15 contiguous nucleotides, of a DNA molecule having a sequence recited in SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375 and 381. Techniques for both PCR based assays and hybridization assays are well known in the art (*see, for example, Mullis et al., Cold Spring Harbor Symp. Quant. Biol., 51:263, 1987; Erlich ed., PCR Technology, Stockton Press, NY, 1989*).

One preferred assay employs RT-PCR, in which PCR is applied in conjunction with reverse transcription. Typically, RNA is extracted from a biological sample, such as biopsy tissue, and is reverse transcribed to produce cDNA molecules. PCR amplification using at least one specific primer generates a cDNA molecule, which may be separated and visualized using, for example, gel electrophoresis. Amplification may be performed on biological samples taken from a test patient and from an individual who is not afflicted with a cancer. The amplification reaction may be performed on several dilutions of cDNA spanning two orders of magnitude. A two-fold or greater increase in expression in several dilutions of the test patient sample as compared to the same dilutions of the non-cancerous sample is typically considered positive.

In another embodiment, the disclosed compositions may be used as markers for the progression of cancer. In this embodiment, assays as described above for the diagnosis of a cancer may be performed over time, and the change in the level of reactive polypeptide(s) or polynucleotide evaluated. For example, the assays may be performed every 24-72 hours for a period of 6 months to 1 year, and thereafter performed as needed. In general, a cancer is progressing in those patients in whom the level of polypeptide or polynucleotide detected increases over time. In contrast, the cancer is not progressing when the level of reactive polypeptide or polynucleotide either remains constant or decreases with time.

Certain *in vivo* diagnostic assays may be performed directly on a tumor. One such assay involves contacting tumor cells with a binding agent. The bound binding agent may then be detected directly or indirectly via a reporter group. Such binding agents may also be used in histological applications. Alternatively, polynucleotide probes may be used within such applications.

As noted above, to improve sensitivity, multiple prostate tumor protein markers may be assayed within a given sample. It will be apparent that binding agents specific for different proteins provided herein may be combined within a single assay. Further, multiple primers or probes may be used concurrently. The selection of tumor protein markers may be based on routine experiments to determine combinations that results in optimal sensitivity. In addition, or alternatively, assays for tumor proteins provided herein may be combined with assays for other known tumor antigens.

## DIAGNOSTIC KITS

The present invention further provides kits for use within any of the above diagnostic methods. Such kits typically comprise two or more components necessary for performing a diagnostic assay. Components may be compounds, reagents, containers and/or equipment. For example, one container within a kit may contain a monoclonal antibody or fragment thereof that specifically binds to a prostate tumor protein. Such antibodies or fragments may be provided attached to a support material, as described above. One or more additional containers may enclose elements, such as reagents or buffers, to be used in the assay. Such kits may also, or alternatively, contain a detection reagent as described above that contains a reporter group suitable for direct or indirect detection of antibody binding.

Alternatively, a kit may be designed to detect the level of mRNA encoding a prostate tumor protein in a biological sample. Such kits generally comprise at least one oligonucleotide probe or primer, as described above, that hybridizes to a polynucleotide encoding a prostate tumor protein. Such an oligonucleotide may be used, for example, within a PCR or hybridization assay. Additional components that may be present within such kits include a second oligonucleotide and/or a diagnostic reagent or container to facilitate the detection of a polynucleotide encoding a prostate tumor protein.

The following Examples are offered by way of illustration and not by way of limitation.

## EXAMPLES

### EXAMPLE 1

#### ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES

This Example describes the isolation of certain prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library was constructed from prostate tumor poly A<sup>+</sup> RNA using a Superscript Plasmid System for cDNA Synthesis and Plasmid Cloning kit (BRL Life Technologies, Gaithersburg, MD 20897) following the manufacturer's protocol. Specifically, prostate tumor tissues were homogenized with polytron (Kinematica, Switzerland) and total RNA was extracted using Trizol reagent (BRL Life Technologies) as directed by the manufacturer. The poly A<sup>+</sup> RNA was then purified using a Qiagen oligotex spin column mRNA purification kit (Qiagen, Santa Clarita, CA 91355) according to the manufacturer's protocol. First-strand cDNA was synthesized using the NotI/Oligo-dT18 primer. Double-stranded cDNA was synthesized, ligated with EcoRI/BAXI adaptors (Invitrogen, San Diego, CA) and digested with NotI. Following size fractionation with Chroma Spin-1000 columns (Clontech, Palo Alto, CA), the cDNA was ligated into the EcoRI/NotI site of pCDNA3.1 (Invitrogen) and transformed into ElectroMax *E. coli* DH10B cells (BRL Life Technologies) by electroporation.

Using the same procedure, a normal human pancreas cDNA expression library was prepared from a pool of six tissue specimens (Clontech). The cDNA libraries were characterized by determining the number of independent colonies, the percentage of clones that carried insert, the average insert size and by sequence analysis. The prostate tumor library contained  $1.64 \times 10^7$  independent colonies, with 70% of clones having an insert and the average insert size being 1745 base pairs. The normal pancreas cDNA library contained  $3.3 \times 10^6$  independent colonies, with 69% of clones having inserts and the average insert size being 1120 base pairs. For both libraries, sequence analysis showed that the majority of clones had a full length cDNA sequence and were synthesized from mRNA, with minimal rRNA and mitochondrial DNA contamination.

cDNA library subtraction was performed using the above prostate tumor and normal pancreas cDNA libraries, as described by Hara *et al.* (*Blood*, 84:189-199, 1994) with some modifications. Specifically, a prostate tumor-specific subtracted cDNA library was generated as follows. Normal pancreas cDNA library (70 µg) was digested with EcoRI, NotI, and SfuI, followed by a filling-in reaction with DNA polymerase Klenow fragment. After phenol-chloroform extraction and ethanol precipitation, the DNA was dissolved in 100 µl of

H<sub>2</sub>O, heat-denatured and mixed with 100  $\mu$ l (100  $\mu$ g) of Photoprobe biotin (Vector Laboratories, Burlingame, CA). As recommended by the manufacturer, the resulting mixture was irradiated with a 270 W sunlamp on ice for 20 minutes. Additional Photoprobe biotin (50  $\mu$ l) was added and the biotinylation reaction was repeated. After extraction with butanol five times, the DNA was ethanol-precipitated and dissolved in 23  $\mu$ l H<sub>2</sub>O to form the driver DNA.

To form the tracer DNA, 10  $\mu$ g prostate tumor cDNA library was digested with BamHI and XhoI, phenol chloroform extracted and passed through Chroma spin-400 columns (Clontech). Following ethanol precipitation, the tracer DNA was dissolved in 5  $\mu$ l H<sub>2</sub>O. Tracer DNA was mixed with 15  $\mu$ l driver DNA and 20  $\mu$ l of 2 x hybridization buffer (1.5 M NaCl/10 mM EDTA/50 mM HEPES pH 7.5/0.2% sodium dodecyl sulfate), overlaid with mineral oil, and heat-denatured completely. The sample was immediately transferred into a 68 °C water bath and incubated for 20 hours (long hybridization [LH]). The reaction mixture was then subjected to a streptavidin treatment followed by phenol/chloroform extraction. This process was repeated three more times. Subtracted DNA was precipitated, dissolved in 12  $\mu$ l H<sub>2</sub>O, mixed with 8  $\mu$ l driver DNA and 20  $\mu$ l of 2 x hybridization buffer, and subjected to a hybridization at 68 °C for 2 hours (short hybridization [SH]). After removal of biotinylated double-stranded DNA, subtracted cDNA was ligated into BamHI/XhoI site of chloramphenicol resistant pBCSK<sup>+</sup> (Stratagene, La Jolla, CA 92037) and transformed into ElectroMax *E. coli* DH10B cells by electroporation to generate a prostate tumor specific subtracted cDNA library (referred to as "prostate subtraction 1").

To analyze the subtracted cDNA library, plasmid DNA was prepared from 100 independent clones, randomly picked from the subtracted prostate tumor specific library and grouped based on insert size. Representative cDNA clones were further characterized by DNA sequencing with a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A (Foster City, CA). Six cDNA clones, hereinafter referred to as F1-13, F1-12, F1-16, H1-1, H1-9 and H1-4, were shown to be abundant in the subtracted prostate-specific cDNA library. The determined 3' and 5' cDNA sequences for F1-12 are provided in SEQ ID NO: 2 and 3, respectively, with determined 3' cDNA sequences for F1-13, F1-16, H1-1, H1-9 and H1-4 being provided in SEQ ID NO: 1 and 4-7, respectively.

The cDNA sequences for the isolated clones were compared to known sequences in the gene bank using the EMBL and GenBank databases (release 96). Four of the prostate tumor cDNA clones, F1-13, F1-16, H1-1, and H1-4, were determined to encode the following previously identified proteins: prostate specific antigen (PSA), human glandular kallikrein, human tumor expression enhanced gene, and mitochondria cytochrome C oxidase subunit II. H1-9 was found to be identical to a previously identified human

autonomously replicating sequence. No significant homologies to the cDNA sequence for F1-12 were found.

Subsequent studies led to the isolation of a full-length cDNA sequence for F1-12. This sequence is provided in SEQ ID NO: 107, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 108.

To clone less abundant prostate tumor specific genes, cDNA library subtraction was performed by subtracting the prostate tumor cDNA library described above with the normal pancreas cDNA library and with the three most abundant genes in the previously subtracted prostate tumor specific cDNA library: human glandular kallikrein, prostate specific antigen (PSA), and mitochondria cytochrome C oxidase subunit II. Specifically, 1 µg each of human glandular kallikrein, PSA and mitochondria cytochrome C oxidase subunit II cDNAs in pCDNA3.1 were added to the driver DNA and subtraction was performed as described above to provide a second subtracted cDNA library hereinafter referred to as the "subtracted prostate tumor specific cDNA library with spike".

Twenty-two cDNA clones were isolated from the subtracted prostate tumor specific cDNA library with spike. The determined 3' and 5' cDNA sequences for the clones referred to as J1-17, L1-12, N1-1862, J1-13, J1-19, J1-25, J1-24, K1-58, K1-63, L1-4 and L1-14 are provided in SEQ ID NOS: 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-21, 22-23, 24-25, 26-27 and 28-29, respectively. The determined 3' cDNA sequences for the clones referred to as J1-12, J1-16, J1-21, K1-48, K1-55, L1-2, L1-6, N1-1858, N1-1860, N1-1861, N1-1864 are provided in SEQ ID NOS: 30-40, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to three of the five most abundant DNA species, (J1-17, L1-12 and N1-1862; SEQ ID NOS: 8-9, 10-11 and 12-13, respectively). Of the remaining two most abundant species, one (J1-12; SEQ ID NO:30) was found to be identical to the previously identified human pulmonary surfactant-associated protein, and the other (K1-48; SEQ ID NO:33) was determined to have some homology to *R. norvegicus* mRNA for 2-arylpropionyl-CoA epimerase. Of the 17 less abundant cDNA clones isolated from the subtracted prostate tumor specific cDNA library with spike, four (J1-16, K1-55, L1-6 and N1-1864; SEQ ID NOS:31, 34, 36 and 40, respectively) were found to be identical to previously identified sequences, two (J1-21 and N1-1860; SEQ ID NOS: 32 and 38, respectively) were found to show some homology to non-human sequences, and two (L1-2 and N1-1861; SEQ ID NOS: 35 and 39, respectively) were found to show some homology to known human sequences. No significant homologies were found to the polypeptides J1-13, J1-19, J1-24, J1-25, K1-58, K1-63, L1-4, L1-14 (SEQ ID NOS: 14-15, 16-17, 20-21, 18-19, 22-23, 24-25, 26-27, 28-29, respectively).

Subsequent studies led to the isolation of full length cDNA sequences for J1-17, L1-12 and N1-1862 (SEQ ID NOS: 109-111, respectively). The corresponding predicted



amino acid sequences are provided in SEQ ID NOS: 112-114. L1-12 is also referred to as P501S.

In a further experiment, four additional clones were identified by subtracting a prostate tumor cDNA library with normal prostate cDNA prepared from a pool of three normal prostate poly A+ RNA (referred to as "prostate subtraction 2"). The determined cDNA sequences for these clones, hereinafter referred to as U1-3064, U1-3065, V1-3692 and 1A-3905, are provided in SEQ ID NO: 69-72, respectively. Comparison of the determined sequences with those in the gene bank revealed no significant homologies to U1-3065.

A second subtraction with spike (referred to as "prostate subtraction spike 2") was performed by subtracting a prostate tumor specific cDNA library with spike with normal pancreas cDNA library and further spiked with PSA, J1-17, pulmonary surfactant-associated protein, mitochondrial DNA, cytochrome c oxidase subunit II, N1-1862, autonomously replicating sequence, L1-12 and tumor expression enhanced gene. Four additional clones, hereinafter referred to as V1-3686, R1-2330, 1B-3976 and V1-3679, were isolated. The determined cDNA sequences for these clones are provided in SEQ ID NO: 73-76, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to V1-3686 and R1-2330.

Further analysis of the three prostate subtractions described above (prostate subtraction 2, subtracted prostate tumor specific cDNA library with spike, and prostate subtraction spike 2) resulted in the identification of sixteen additional clones, referred to as 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1G-4734, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4810, 1I-4811, 1J-4876, 1K-4884 and 1K-4896. The determined cDNA sequences for these clones are provided in SEQ ID NOS: 77-92, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to 1G-4741, 1G-4734, 1I-4807, 1J-4876 and 1K-4896 (SEQ ID NOS: 79, 81, 87, 90 and 92, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4807, 1J-4876, 1K-4884 and 1K-4896, provided in SEQ ID NOS: 179-188 and 191-193, respectively, and to the determination of additional partial cDNA sequences for 1I-4810 and 1I-4811, provided in SEQ ID NOS: 189 and 190, respectively.

Additional studies with prostate subtraction spike 2 resulted in the isolation of three more clones. Their sequences were determined as described above and compared to the most recent GenBank. All three clones were found to have homology to known genes, which are Cysteine-rich protein, KIAA0242, and KIAA0280 (SEQ ID NO: 317, 319, and 320, respectively). Further analysis of these clones by Synteni microarray (Synteni, Palo Alto, CA) demonstrated that all three clones were over-expressed in most prostate tumors and

prostate BPH, as well as in the majority of normal prostate tissues tested, but low expression in all other normal tissues.

An additional subtraction was performed by subtracting a normal prostate cDNA library with normal pancreas cDNA (referred to as "prostate subtraction 3"). This led to the identification of six additional clones referred to as 1G-4761, 1G-4762, 1H-4766, 1H-4770, 1H-4771 and 1H-4772 (SEQ ID NOS: 93-98). Comparison of these sequences with those in the gene bank revealed no significant homologies to 1G-4761 and 1H-4771 (SEQ ID NOS: 93 and 97, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4761, 1G-4762, 1H-4766 and 1H-4772 provided in SEQ ID NOS: 194-196 and 199, respectively, and to the determination of additional partial cDNA sequences for 1H-4770 and 1H-4771, provided in SEQ ID NOS: 197 and 198, respectively.

Subtraction of a prostate tumor cDNA library, prepared from a pool of polyA+ RNA from three prostate cancer patients, with a normal pancreas cDNA library (prostate subtraction 4) led to the identification of eight clones, referred to as 1D-4297, 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280 (SEQ ID NOS: 99-107). These sequences were compared to those in the gene bank as described above. No significant homologies were found to 1D-4283 and 1D-4304 (SEQ ID NOS: 103 and 104, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280, provided in SEQ ID NOS: 200-206, respectively.

cDNA clones isolated in prostate subtraction 1 and prostate subtraction 2, described above, were colony PCR amplified and their mRNA expression levels in prostate tumor, normal prostate and in various other normal tissues were determined using microarray technology (Synteni, Palo Alto, CA). Briefly, the PCR amplification products were dotted onto slides in an array format, with each product occupying a unique location in the array. mRNA was extracted from the tissue sample to be tested, reverse transcribed, and fluorescent-labeled cDNA probes were generated. The microarrays were probed with the labeled cDNA probes, the slides scanned and fluorescence intensity was measured. This intensity correlates with the hybridization intensity. Two clones (referred to as P509S and P510S) were found to be over-expressed in prostate tumor and normal prostate and expressed at low levels in all other normal tissues tested (liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon). The determined cDNA sequences for P509S and P510S are provided in SEQ ID NO: 223 and 224, respectively. Comparison of these sequences with those in the gene bank as described above, revealed some homology to previously identified ESTs.

Additional, studies led to the isolation of the full-length cDNA sequence for P509S. This sequence is provided in SEQ ID NO: 332, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 339.

## EXAMPLE 2

### DETERMINATION OF TISSUE SPECIFICITY OF PROSTATE TUMOR POLYPEPTIDES

Using gene specific primers, mRNA expression levels for the representative prostate tumor polypeptides F1-16, H1-1, J1-17 (also referred to as P502S), L1-12 (also referred to as P501S), F1-12 (also referred to as P504S) and N1-1862 (also referred to as P503S) were examined in a variety of normal and tumor tissues using RT-PCR.

Briefly, total RNA was extracted from a variety of normal and tumor tissues using Trizol reagent as described above. First strand synthesis was carried out using 1-2  $\mu$ g of total RNA with SuperScript II reverse transcriptase (BRL Life Technologies) at 42 °C for one hour. The cDNA was then amplified by PCR with gene-specific primers. To ensure the semi-quantitative nature of the RT-PCR,  $\beta$ -actin was used as an internal control for each of the tissues examined. First, serial dilutions of the first strand cDNAs were prepared and RT-PCR assays were performed using  $\beta$ -actin specific primers. A dilution was then chosen that enabled the linear range amplification of the  $\beta$ -actin template and which was sensitive enough to reflect the differences in the initial copy numbers. Using these conditions, the  $\beta$ -actin levels were determined for each reverse transcription reaction from each tissue. DNA contamination was minimized by DNase treatment and by assuring a negative PCR result when using first strand cDNA that was prepared without adding reverse transcriptase.

mRNA Expression levels were examined in four different types of tumor tissue (prostate tumor from 2 patients, breast tumor from 3 patients, colon tumor, lung tumor), and sixteen different normal tissues, including prostate, colon, kidney, liver, lung, ovary, pancreas, skeletal muscle, skin, stomach, testes, bone marrow and brain. F1-16 was found to be expressed at high levels in prostate tumor tissue, colon tumor and normal prostate, and at lower levels in normal liver, skin and testes, with expression being undetectable in the other tissues examined. H1-1 was found to be expressed at high levels in prostate tumor, lung tumor, breast tumor, normal prostate, normal colon and normal brain, at much lower levels in normal lung, pancreas, skeletal muscle, skin, small intestine, bone marrow, and was not detected in the other tissues tested. J1-17 (P502S) and L1-12 (P501S) appear to be specifically over-expressed in prostate, with both genes being expressed at high levels in prostate tumor and normal prostate but at low to undetectable levels in all the other tissues examined. N1-1862 (P503S) was found to be over-expressed in 60% of prostate tumors and detectable in normal colon and kidney. The RT-PCR results thus indicate that

F1-16, H1-1, J1-17 (P502S), N1-1862 (P503S) and L1-12 (P501S) are either prostate specific or are expressed at significantly elevated levels in prostate.

Further RT-PCR studies showed that F1-12 (P504S) is over-expressed in 60% of prostate tumors, detectable in normal kidney but not detectable in all other tissues tested. Similarly, R1-2330 was shown to be over-expressed in 40% of prostate tumors, detectable in normal kidney and liver, but not detectable in all other tissues tested. U1-3064 was found to be over-expressed in 60% of prostate tumors, and also expressed in breast and colon tumors, but was not detectable in normal tissues.

RT-PCR characterization of R1-2330, U1-3064 and 1D-4279 showed that these three antigens are over-expressed in prostate and/or prostate tumors.

Northern analysis with four prostate tumors, two normal prostate samples, two BPH prostates, and normal colon, kidney, liver, lung, pancreas, skeletal muscle, brain, stomach, testes, small intestine and bone marrow, showed that L1-12 (P501S) is over-expressed in prostate tumors and normal prostate, while being undetectable in other normal tissues tested. J1-17 (P502S) was detected in two prostate tumors and not in the other tissues tested. N1-1862 (P503S) was found to be over-expressed in three prostate tumors and to be expressed in normal prostate, colon and kidney, but not in other tissues tested. F1-12 (P504S) was found to be highly expressed in two prostate tumors and to be undetectable in all other tissues tested.

The microarray technology described above was used to determine the expression levels of representative antigens described herein in prostate tumor, breast tumor and the following normal tissues: prostate, liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon. L1-12 (P501S) was found to be over-expressed in normal prostate and prostate tumor, with some expression being detected in normal skeletal muscle. Both J1-12 and F1-12 (P504S) were found to be over-expressed in prostate tumor, with expression being lower or undetectable in all other tissues tested. N1-1862 (P503S) was found to be expressed at high levels in prostate tumor and normal prostate, and at low levels in normal large intestine and normal colon, with expression being undetectable in all other tissues tested. R1-2330 was found to be over-expressed in prostate tumor and normal prostate, and to be expressed at lower levels in all other tissues tested. 1D-4279 was found to be over-expressed in prostate tumor and normal prostate, expressed at lower levels in normal spinal cord, and to be undetectable in all other tissues tested.

Further microarray analysis to specifically address the extent to which P501S (SEQ ID NO: 110) was expressed in breast tumor revealed moderate over-expression not only in breast tumor, but also in metastatic breast tumor (2/31), with negligible to low expression

in normal tissues. This data suggests that P501S may be over-expressed in various breast tumors as well as in prostate tumors.

The expression levels of 32 ESTs (expressed sequence tags) described by Vasmatzis *et al.* (*Proc. Natl. Acad. Sci. USA* 95:300-304, 1998) in a variety of tumor and normal tissues were examined by microarray technology as described above. Two of these clones (referred to as P1000C and P1001C) were found to be over-expressed in prostate tumor and normal prostate, and expressed at low to undetectable levels in all other tissues tested (normal aorta, thymus, resting and activated PBMC, epithelial cells, spinal cord, adrenal gland, fetal tissues, skin, salivary gland, large intestine, bone marrow, liver, lung, dendritic cells, stomach, lymph nodes, brain, heart, small intestine, skeletal muscle, colon and kidney. The determined cDNA sequences for P1000C and P1001C are provided in SEQ ID NO: 384 and 472, respectively. The sequence of P1001C was found to show some homology to the previously isolated Human mRNA for JM27 protein. No significant homologies were found to the sequence of P1000C.

The expression of the polypeptide encoded by the full length cDNA sequence for F1-12 (also referred to as P504S; SEQ ID NO: 108) was investigated by immunohistochemical analysis. Rabbit-anti-P504S polyclonal antibodies were generated against the full length P504S protein by standard techniques. Subsequent isolation and characterization of the polyclonal antibodies were also performed by techniques well known in the art. Immunohistochemical analysis showed that the P504S polypeptide was expressed in 100% of prostate carcinoma samples tested (n=5).

The rabbit-anti-P504S polyclonal antibody did not appear to label benign prostate cells with the same cytoplasmic granular staining, but rather with light nuclear staining. Analysis of normal tissues revealed that the encoded polypeptide was found to be expressed in some, but not all normal human tissues. Positive cytoplasmic staining with rabbit-anti-P504S polyclonal antibody was found in normal human kidney, liver, brain, colon and lung-associated macrophages, whereas heart and bone marrow were negative.

This data indicates that the P504S polypeptide is present in prostate cancer tissues, and that there are qualitative and quantitative differences in the staining between benign prostatic hyperplasia tissues and prostate cancer tissues, suggesting that this polypeptide may be detected selectively in prostate tumors and therefore be useful in the diagnosis of prostate cancer.

### EXAMPLE 3

#### ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA subtraction library, containing cDNA from normal prostate subtracted with ten other normal tissue cDNAs (brain, heart, kidney, liver, lung, ovary, placenta, skeletal muscle, spleen and thymus) and then submitted to a first round of PCR amplification, was purchased from Clontech. This library was subjected to a second round of PCR amplification, following the manufacturer's protocol. The resulting cDNA fragments were subcloned into the vector pT7 Blue T-vector (Novagen, Madison, WI) and transformed into XL-1 Blue MRF' *E. coli* (Stratagene). DNA was isolated from independent clones and sequenced using a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A.

Fifty-nine positive clones were sequenced. Comparison of the DNA sequences of these clones with those in the gene bank, as described above, revealed no significant homologies to 25 of these clones, hereinafter referred to as P5, P8, P9, P18, P20, P30, P34, P36, P38, P39, P42, P49, P50, P53, P55, P60, P64, P65, P73, P75, P76, P79 and P84. The determined cDNA sequences for these clones are provided in SEQ ID NO: 41-45, 47-52 and 54-65, respectively. P29, P47, P68, P80 and P82 (SEQ ID NO: 46, 53 and 66-68, respectively) were found to show some degree of homology to previously identified DNA sequences. To the best of the inventors' knowledge, none of these sequences have been previously shown to be present in prostate.

Further studies using the PCR-based methodology described above resulted in the isolation of more than 180 additional clones, of which 23 clones were found to show no significant homologies to known sequences. The determined cDNA sequences for these clones are provided in SEQ ID NO: 115-123, 127, 131, 137, 145, 147-151, 153, 156-158 and 160. Twenty-three clones (SEQ ID NO: 124-126, 128-130, 132-136, 138-144, 146, 152, 154, 155 and 159) were found to show some homology to previously identified ESTs. An additional ten clones (SEQ ID NO: 161-170) were found to have some degree of homology to known genes. Larger cDNA clones containing the P20 sequence represent splice variants of a gene referred to as P703P. The determined DNA sequence for the variants referred to as DE1, DE13 and DE14 are provided in SEQ ID NOS: 171, 175 and 177, respectively, with the corresponding predicted amino acid sequences being provided in SEQ ID NO: 172, 176 and 178, respectively. The determined cDNA sequence for an extended spliced form of P703 is provided in SEQ ID NO: 225. The DNA sequences for the splice variants referred to as DE2 and DE6 are provided in SEQ ID NOS: 173 and 174, respectively.

mRNA Expression levels for representative clones in tumor tissues (prostate (n=5), breast (n=2), colon and lung) normal tissues (prostate (n=5), colon, kidney, liver, lung (n=2), ovary (n=2), skeletal muscle, skin, stomach, small intestine and brain), and activated

and non-activated PBMC was determined by RT-PCR as described above. Expression was examined in one sample of each tissue type unless otherwise indicated.

P9 was found to be highly expressed in normal prostate and prostate tumor compared to all normal tissues tested except for normal colon which showed comparable expression. P20, a portion of the P703P gene, was found to be highly expressed in normal prostate and prostate tumor, compared to all twelve normal tissues tested. A modest increase in expression of P20 in breast tumor (n=2), colon tumor and lung tumor was seen compared to all normal tissues except lung (1 of 2). Increased expression of P18 was found in normal prostate, prostate tumor and breast tumor compared to other normal tissues except lung and stomach. A modest increase in expression of P5 was observed in normal prostate compared to most other normal tissues. However, some elevated expression was seen in normal lung and PBMC. Elevated expression of P5 was also observed in prostate tumors (2 of 5), breast tumor and one lung tumor sample. For P30, similar expression levels were seen in normal prostate and prostate tumor, compared to six of twelve other normal tissues tested. Increased expression was seen in breast tumors, one lung tumor sample and one colon tumor sample, and also in normal PBMC. P29 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to the majority of normal tissues. However, substantial expression of P29 was observed in normal colon and normal lung (2 of 2). P80 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to all other normal tissues tested, with increased expression also being seen in colon tumor.

Further studies resulted in the isolation of twelve additional clones, hereinafter referred to as 10-d8, 10-h10, 11-c8, 7-g6, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3, 8-h11, 9-f12 and 9-f3. The determined DNA sequences for 10-d8, 10-h10, 11-c8, 8-d4, 8-d9, 8-h11, 9-f12 and 9-f3 are provided in SEQ ID NO: 207, 208, 209, 216, 217, 220, 221 and 222, respectively. The determined forward and reverse DNA sequences for 7-g6, 8-b5, 8-b6 and 8-g3 are provided in SEQ ID NO: 210 and 211; 212 and 213; 214 and 215; and 218 and 219, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to the sequence of 9-f3. The clones 10-d8, 11-c8 and 8-h11 were found to show some homology to previously isolated ESTs, while 10-h10, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3 and 9-f12 were found to show some homology to previously identified genes. Further characterization of 7-G6 and 8-G3 showed identity to the known genes PAP and PSA, respectively.

mRNA expression levels for these clones were determined using the microarray technology described above. The clones 7-G6, 8-G3, 8-B5, 8-B6, 8-D4, 8-D9, 9-F3, 9-F12, 9-H3, 10-A2, 10-A4, 11-C9 and 11-F2 were found to be over-expressed in prostate tumor and normal prostate, with expression in other tissues tested being low or undetectable.

Increased expression of 8-F11 was seen in prostate tumor and normal prostate, bladder, skeletal muscle and colon. Increased expression of 10-H10 was seen in prostate tumor and normal prostate, bladder, lung, colon, brain and large intestine. Increased expression of 9-B1 was seen in prostate tumor, breast tumor, and normal prostate, salivary gland, large intestine and skin, with increased expression of 11-C8 being seen in prostate tumor, and normal prostate and large intestine.

An additional cDNA fragment derived from the PCR-based normal prostate subtraction, described above, was found to be prostate specific by both micro-array technology and RT-PCR. The determined cDNA sequence of this clone (referred to as 9-A11) is provided in SEQ ID NO: 226. Comparison of this sequence with those in the public databases revealed 99% identity to the known gene HOXB13.

Further studies led to the isolation of the clones 8-C6 and 8-H7. The determined cDNA sequences for these clones are provided in SEQ ID NO: 227 and 228, respectively. These sequences were found to show some homology to previously isolated ESTs.

PCR and hybridization-based methodologies were employed to obtain longer cDNA sequences for clone P20 (also referred to as P703P), yielding three additional cDNA fragments that progressively extend the 5' end of the gene. These fragments, referred to as P703PDE5, P703P6.26, and P703PX-23 (SEQ ID NO: 326, 328 and 330, with the predicted corresponding amino acid sequences being provided in SEQ ID NO: 327, 329 and 331, respectively) contain additional 5' sequence. P703PDE5 was recovered by screening of a cDNA library (#141-26) with a portion of P703P as a probe. P703P6.26 was recovered from a mixture of three prostate tumor cDNAs and P703PX\_23 was recovered from cDNA library (#438-48). Together, the additional sequences include all of the putative mature serine protease along with part of the putative signal sequence. Further studies using a PCR-based subtraction library of a prostate tumor pool subtracted against a pool of normal tissues (referred to as JP: PCR subtraction) resulted in the isolation of thirteen additional clones, seven of which did not share any significant homology to known GenBank sequences. The determined cDNA sequences for these seven clones (P711P, P712P, novel 23, P774P, P775P, P710P and P768P) are provided in SEQ ID NO: 307-311, 313 and 315, respectively. The remaining six clones (SEQ ID NO: 316 and 321-325) were shown to share some homology to known genes. By microarray analysis, all thirteen clones showed three or more fold over-expression in prostate tissues, including prostate tumors, BPH and normal prostate as compared to normal non-prostate tissues. Clones P711P, P712P, novel 23 and P768P showed over-expression in most prostate tumors and BPH tissues tested (n=29), and in the majority of normal prostate tissues (n=4), but background to low expression levels in all normal tissues.



Clones P774P, P775P and P710P showed comparatively lower expression and expression in fewer prostate tumors and BPH samples, with negative to low expression in normal prostate.

The full-length cDNA for P711P was obtained by employing the partial sequence of SEQ ID NO: 307 to screen a prostate cDNA library. Specifically, a directionally cloned prostate cDNA library was prepared using standard techniques. One million colonies of this library were plated onto LB/Amp plates. Nylon membrane filters were used to lift these colonies, and the cDNAs which were picked up by these filters were denatured and cross-linked to the filters by UV light. The P711P cDNA fragment of SEQ ID NO: 307 was radio-labeled and used to hybridize with these filters. Positive clones were selected, and cDNAs were prepared and sequenced using an automatic Perkin Elmer/Applied Biosystems sequencer. The determined full-length sequence of P711P is provided in SEQ ID NO: 382, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 383.

Using PCR and hybridization-based methodologies, additional cDNA sequence information was derived for two clones described above, 11-C9 and 9-F3, herein after referred to as P707P and P714P, respectively (SEQ ID NO: 333 and 334). After comparison with the most recent GenBank, P707P was found to be a splice variant of the known gene HoxB13. In contrast, no significant homologies to P714P were found.

Clones 8-B3, P89, P98, P130 and P201 (as disclosed in U.S. Patent Application No. 09/020,956, filed February 9, 1998) were found to be contained within one contiguous sequence, referred to as P705P (SEQ ID NO: 335, with the predicted amino acid sequence provided in SEQ ID NO: 336), which was determined to be a splice variant of the known gene NKX 3.1.

#### EXAMPLE 4 SYNTHESIS OF POLYPEPTIDES

Polypeptides may be synthesized on a Perkin Elmer/Applied Biosystems 430A peptide synthesizer using Fmoc chemistry with HPTU (O-Benzotriazole-N,N,N',N'-tetramethyluronium hexafluorophosphate) activation. A Gly-Cys-Gly sequence may be attached to the amino terminus of the peptide to provide a method of conjugation, binding to an immobilized surface, or labeling of the peptide. Cleavage of the peptides from the solid support may be carried out using the following cleavage mixture: trifluoroacetic acid:ethanedithiol:thioanisole:water:phenol (40:1:2:2:3). After cleaving for 2 hours, the peptides may be precipitated in cold methyl-t-butyl-ether. The peptide pellets may then be dissolved in water containing 0.1% trifluoroacetic acid (TFA) and lyophilized prior to purification by C18 reverse phase HPLC. A gradient of 0%-60% acetonitrile (containing 0.1% TFA) in water (containing 0.1% TFA) may be used to elute the peptides. Following

lyophilization of the pure fractions, the peptides may be characterized using electrospray or other types of mass spectrometry and by amino acid analysis.

#### EXAMPLE 5

#### FURTHER ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA library generated from prostate primary tumor mRNA as described above was subtracted with cDNA from normal prostate. The subtraction was performed using a PCR-based protocol (Clontech), which was modified to generate larger fragments. Within this protocol, tester and driver double stranded cDNA were separately digested with five restriction enzymes that recognize six-nucleotide restriction sites (MluI, MscI, PvuII, SalI and StuI). This digestion resulted in an average cDNA size of 600 bp, rather than the average size of 300 bp that results from digestion with RsaI according to the Clontech protocol. This modification did not affect the subtraction efficiency. Two tester populations were then created with different adapters, and the driver library remained without adapters.

The tester and driver libraries were then hybridized using excess driver cDNA. In the first hybridization step, driver was separately hybridized with each of the two tester cDNA populations. This resulted in populations of (a) unhybridized tester cDNAs, (b) tester cDNAs hybridized to other tester cDNAs, (c) tester cDNAs hybridized to driver cDNAs and (d) unhybridized driver cDNAs. The two separate hybridization reactions were then combined, and rehybridized in the presence of additional denatured driver cDNA. Following this second hybridization, in addition to populations (a) through (d), a fifth population (e) was generated in which tester cDNA with one adapter hybridized to tester cDNA with the second adapter. Accordingly, the second hybridization step resulted in enrichment of differentially expressed sequences which could be used as templates for PCR amplification with adaptor-specific primers.

The ends were then filled in, and PCR amplification was performed using adaptor-specific primers. Only population (e), which contained tester cDNA that did not hybridize to driver cDNA, was amplified exponentially. A second PCR amplification step was then performed, to reduce background and further enrich differentially expressed sequences.

This PCR-based subtraction technique normalizes differentially expressed cDNAs so that rare transcripts that are overexpressed in prostate tumor tissue may be recoverable. Such transcripts would be difficult to recover by traditional subtraction methods.

In addition to genes known to be overexpressed in prostate tumor, seventy-seven further clones were identified. Sequences of these partial cDNAs are provided in SEQ ID NO: 29 to 305. Most of these clones had no significant homology to database sequences. Exceptions were JTPN23 (SEQ ID NO: 231; similarity to pig valosin-containing protein), JTPN30 (SEQ ID NO: 234; similarity to rat mRNA for proteasome subunit), JTPN45 (SEQ ID NO: 243; similarity to rat *norvegicus* cytosolic NADP-dependent isocitrate dehydrogenase), JTPN46 (SEQ ID NO: 244; similarity to human subclone H8 4 d4 DNA sequence), JP1D6 (SEQ ID NO: 265; similarity to *G. gallus* dynein light chain-A), JP8D6 (SEQ ID NO: 288; similarity to human BAC clone RG016J04), JP8F5 (SEQ ID NO: 289; similarity to human subclone H8 3 b5 DNA sequence), and JP8E9 (SEQ ID NO: 299; similarity to human Alu sequence).

Additional studies using the PCR-based subtraction library consisting of a prostate tumor pool subtracted against a normal prostate pool (referred to as PT-PN PCR subtraction) yielded three additional clones. Comparison of the cDNA sequences of these clones with the most recent release of GenBank revealed no significant homologies to the two clones referred to as P715P and P767P (SEQ ID NO: 312 and 314). The remaining clone was found to show some homology to the known gene KIAA0056 (SEQ ID NO: 318). Using microarray analysis to measure mRNA expression levels in various tissues, all three clones were found to be over-expressed in prostate tumors and BPH tissues. Specifically, clone P715P was over-expressed in most prostate tumors and BPH tissues by a factor of three or greater, with elevated expression seen in the majority of normal prostate samples and in fetal tissue, but negative to low expression in all other normal tissues. Clone P767P was over-expressed in several prostate tumors and BPH tissues, with moderate expression levels in half of the normal prostate samples, and background to low expression in all other normal tissues tested.

Further analysis, by microarray as described above, of the PT-PN PCR subtraction library and of a DNA subtraction library containing cDNA from prostate tumor subtracted with a pool of normal tissue cDNAs, led to the isolation of 27 additional clones (SEQ ID NO: 340-365 and 381) which were determined to be over-expressed in prostate tumor. The clones of SEQ ID NO: 341, 342, 345, 347, 348, 349, 351, 355-359, 361, 362 and 364 were also found to be expressed in normal prostate. Expression of all 26 clones in a variety of normal tissues was found to be low or undetectable, with the exception of P544S (SEQ ID NO: 356) which was found to be expressed in small intestine. Of the 26 clones, 10 (SEQ ID NO: 340-349) were found to show some homology to previously identified sequences. No significant homologies were found to the clones of SEQ ID NO: 350-365.

#### EXAMPLE 6

##### PEPTIDE PRIMING OF MICE AND PROPAGATION OF CTL LINES

6.1. This Example illustrates the preparation of a CTL cell line specific for cells expressing the P502S gene.

Mice expressing the transgene for human HLA A2.1 (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with P2S#12 peptide (VLGWVAEL; SEQ ID NO: 306), which is derived from the P502S gene (also referred to herein as J1-17, SEQ ID NO: 8), as described by Theobald et al., *Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995 with the following modifications. Mice were immunized with 100µg of P2S#12 and 120µg of an I-A<sup>b</sup> binding peptide derived from hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and using a nylon mesh single cell suspensions prepared. Cells were then resuspended at  $6 \times 10^6$  cells/ml in complete media (RPMI-1640; Gibco BRL, Gaithersburg, MD) containing 10% FCS, 2mM Glutamine (Gibco BRL), sodium pyruvate (Gibco BRL), non-essential amino acids (Gibco BRL),  $2 \times 10^{-5}$  M 2-mercaptoethanol, 50U/ml penicillin and streptomycin, and cultured in the presence of irradiated (3000 rads) P2S#12-pulsed (5mg/ml P2S#12 and 10mg/ml  $\beta$ 2-microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of 7µg/ml dextran sulfate and 25µg/ml LPS for 3 days). Six days later, cells ( $5 \times 10^5$ /ml) were restimulated with  $2.5 \times 10^6$ /ml peptide pulsed irradiated (20,000 rads) EL4A2Kb cells (Sherman et al, *Science* 258:815-818, 1992) and  $3 \times 10^6$ /ml A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20U/ml IL-2. Cells continued to be restimulated on a weekly basis as described, in preparation for cloning the line.

P2S#12 line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells ( $1 \times 10^4$  cells/ well) as stimulators and A2 transgenic spleen cells as feeders ( $5 \times 10^5$  cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were

restimulated as before. On day 21, clones that were growing were isolated and maintained in culture. Several of these clones demonstrated significantly higher reactivity (lysis) against human fibroblasts (HLA A2.1 expressing) transduced with P502S than against control fibroblasts. An example is presented in Figure 1.

This data indicates that P2S #12 represents a naturally processed epitope of the P502S protein that is expressed in the context of the human HLA A2.1 molecule.

6.2. This Example illustrates the preparation of murine CTL lines and CTL clones specific for cells expressing the P501S gene.

This series of experiments were performed similarly to that described above. Mice were immunized with the P1S#10 peptide (SEQ ID NO: 337), which is derived from the P501S gene (also referred to herein as L1-12, SEQ ID NO: 110). The P1S#10 peptide was derived by analysis of the predicted polypeptide sequence for P501S for potential HLA-A2 binding sequences as defined by published HLA-A2 binding motifs (Parker, KC, *et al*, *J. Immunol.*, 152:163, 1994). P1S#10 peptide was synthesized as described in Example 4, and empirically tested for HLA-A2 binding using a T cell based competition assay. Predicted A2 binding peptides were tested for their ability to compete HLA-A2 specific peptide presentation to an HLA-A2 restricted CTL clone (D150M58), which is specific for the HLA-A2 binding influenza matrix peptide fluM58. D150M58 CTL secretes TNF in response to self-presentation of peptide fluM58. In the competition assay, test peptides at 100-200  $\mu\text{g/ml}$  were added to cultures of D150M58 CTL in order to bind HLA-A2 on the CTL. After thirty minutes, CTL cultured with test peptides, or control peptides, were tested for their antigen dose response to the fluM58 peptide in a standard TNF bioassay. As shown in Figure 3, peptide P1S#10 competes HLA-A2 restricted presentation of fluM58, demonstrating that peptide P1S#10 binds HLA-A2.

Mice expressing the transgene for human HLA A2.1 were immunized as described by Theobald *et al.* (*Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995) with the following modifications. Mice were immunized with 62.5 $\mu\text{g}$  of P1S #10 and 120 $\mu\text{g}$  of an I-A<sup>b</sup> binding peptide derived from Hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and single cell suspensions prepared using a nylon mesh. Cells were then resuspended at  $6 \times 10^6$  cells/ml in complete media (as described above) and cultured in the presence of irradiated (3000 rads) P1S#10-pulsed (2 $\mu\text{g/ml}$  P1S#10 and 10mg/ml  $\beta$ 2-microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of 7 $\mu\text{g/ml}$  dextran sulfate and 25 $\mu\text{g/ml}$  LPS for 3 days). Six days later cells ( $5 \times 10^5$ /ml) were restimulated with  $2.5 \times 10^6$ /ml peptide-pulsed irradiated (20,000 rads) EL4A2Kb cells, as described above, and  $3 \times 10^6$ /ml A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20 U/ml IL-2. Cells were restimulated on a weekly

basis in preparation for cloning. After three rounds of *in vitro* stimulations, one line was generated that recognized P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat targets as shown in Figure 4.

A P1S#10-specific CTL line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells ( $1 \times 10^4$  cells/ well) as stimulators and A2 transgenic spleen cells as feeders ( $5 \times 10^5$  cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were restimulated as before. On day 21, viable clones were isolated and maintained in culture. As shown in Figure 5, five of these clones demonstrated specific cytolytic reactivity against P501S-transduced Jurkat A2Kb targets. This data indicates that P1S#10 represents a naturally processed epitope of the P501S protein that is expressed in the context of the human HLA-A2.1 molecule.

#### EXAMPLE 7

#### ABILITY OF HUMAN T CELLS TO RECOGNIZE PROSTATE TUMOR POLYPEPTIDES

This Example illustrates the ability of T cells specific for a prostate tumor polypeptide to recognize human tumor.

Human CD8<sup>+</sup> T cells were primed *in vitro* to the P2S-12 peptide (SEQ ID NO: 306) derived from P502S (also referred to as J1-17) using dendritic cells according to the protocol of Van Tsai et al. (*Critical Reviews in Immunology* 18:65-75, 1998). The resulting CD8<sup>+</sup> T cell microcultures were tested for their ability to recognize the P2S-12 peptide presented by autologous fibroblasts or fibroblasts which were transduced to express the P502S gene in a  $\gamma$ -interferon ELISPOT assay (see Lalvani et al., *J. Exp. Med.* 186:859-865, 1997). Briefly, titrating numbers of T cells were assayed in duplicate on  $10^4$  fibroblasts in the presence of 3  $\mu$ g/ml human  $\beta_2$ -microglobulin and 1  $\mu$ g/ml P2S-12 peptide or control E75 peptide. In addition, T cells were simultaneously assayed on autologous fibroblasts transduced with the P502S gene or as a control, fibroblasts transduced with HER-2/*neu*. Prior to the assay, the fibroblasts were treated with 10 ng/ml  $\gamma$ -interferon for 48 hours to upregulate class I MHC expression. One of the microcultures (#5) demonstrated strong recognition of both peptide pulsed fibroblasts as well as transduced fibroblasts in a  $\gamma$ -interferon ELISPOT assay. Figure 2A demonstrates that there was a strong increase in the number of  $\gamma$ -interferon spots with increasing numbers of T cells on fibroblasts pulsed with the P2S-12 peptide (solid bars) but not with the control E75 peptide (open bars). This shows the ability of these T cells to specifically recognize the P2S-12 peptide. As shown in Figure 2B, this microculture also demonstrated an increase in the number of  $\gamma$ -interferon spots with increasing numbers of T

cells on fibroblasts transduced to express the P502S gene but not the HER-2/*neu* gene. These results provide additional confirmatory evidence that the P2S-12 peptide is a naturally processed epitope of the P502S protein. Furthermore, this also demonstrates that there exists in the human T cell repertoire, high affinity T cells which are capable of recognizing this epitope. These T cells should also be capable of recognizing human tumors which express the P502S gene.

#### EXAMPLE 8

##### PRIMING OF CTL *IN VIVO* USING NAKED DNA IMMUNIZATION WITH A PROSTATE ANTIGEN

The prostate tumor antigen L1-12, as described above, is also referred to as P501S. HLA A2Kb Tg mice (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with 100 µg VR10132-P501S either intramuscularly or intradermally. The mice were immunized three times, with a two week interval between immunizations. Two weeks after the last immunization, immune spleen cells were cultured with Jurkat A2Kb-P501S transduced stimulator cells. CTL lines were stimulated weekly. After two weeks of *in vitro* stimulation, CTL activity was assessed against P501S transduced targets. Two out of 8 mice developed strong anti-P501S CTL responses. These results demonstrate that P501S contains at least one naturally processed A2-restricted CTL epitope.

#### EXAMPLE 9

##### GENERATION OF HUMAN CTL *IN VITRO* USING WHOLE GENE PRIMING AND STIMULATION TECHNIQUES WITH PROSTATE TUMOR ANTIGEN

Using *in vitro* whole-gene priming with P501S-retrovirally transduced autologous fibroblasts (see, for example, Yee et al, *The Journal of Immunology*, 157(9):4079-86, 1996), human CTL lines were derived that specifically recognize autologous fibroblasts transduced with P501S (also known as L1-12), as determined by interferon-γ ELISPOT analysis as described above. Using a panel of HLA-mismatched fibroblast lines transduced with P501S, these CTL lines were shown to be restricted HLA-A2 class I allele. Specifically, dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by growing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, DC were infected overnight with recombinant P501S vaccinia virus at a multiplicity of infection (M.O.I) of five, and matured overnight by the addition of 3 µg/ml CD40 ligand. Virus was inactivated by UV irradiation. CD8+ T cells were isolated using a magnetic bead system, and

priming cultures were initiated using standard culture techniques. Cultures were restimulated every 7-10 days using autologous primary fibroblasts retrovirally transduced with P501S. Following four stimulation cycles, CD8+ T cell lines were identified that specifically produced interferon- $\gamma$  when stimulated with P501S-transduced autologous fibroblasts. The P501S-specific activity could be sustained by the continued stimulation of the cultures with P501S-transduced fibroblasts in the presence of IL-15. A panel of HLA-mismatched fibroblast lines transduced with P501S were generated to define the restriction allele of the response. By measuring interferon- $\gamma$  in an ELISPOT assay, the P501S specific response was shown to be restricted by HLA-A2. These results demonstrate that a CD8+ CTL response to P501S can be elicited.

#### EXAMPLE 10

##### IDENTIFICATION OF A NATURALLY PROCESSED CTL EPITOPE CONTAINED WITHIN A PROSTATE TUMOR ANTIGEN

The 9-mer peptide p5 (SEQ ID NO: 338) was derived from the P703P antigen (also referred to as P20). The p5 peptide is immunogenic in human HLA-A2 donors and is a naturally processed epitope. Antigen specific CD8+ T cells can be primed following repeated *in vitro* stimulations with monocytes pulsed with p5 peptide. These CTL specifically recognize p5-pulsed target cells in both ELISPOT (as described above) and chromium release assays. Additionally, immunization of HLA-A2 transgenic mice with p5 leads to the generation of CTL lines which recognize a variety of P703P transduced target cells expressing either HLA-A2Kb or HLA-A2. Specifically, HLA-A2 transgenic mice were immunized subcutaneously in the footpad with 100  $\mu$ g of p5 peptide together with 140  $\mu$ g of hepatitis B virus core peptide (a Th peptide) in Freund's incomplete adjuvant. Three weeks post immunization, spleen cells from immunized mice were stimulated *in vitro* with peptide-pulsed LPS blasts. CTL activity was assessed by chromium release assay five days after primary *in vitro* stimulation. Retrovirally transduced cells expressing the control antigen P703P and HLA-A2Kb were used as targets. CTL lines that specifically recognized both p5-pulsed targets as well as P703P-expressing targets were identified.

Human *in vitro* priming experiments demonstrated that the p5 peptide is immunogenic in humans. Dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by culturing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, the DC were pulsed with p5 peptide and cultured with GM-CSF and IL-4 together with CD8+ T cell enriched PBMC. CTL lines were restimulated on a weekly basis



with p5-pulsed monocytes. Five to six weeks after initiation of the CTL cultures, CTL recognition of p5-pulsed target cells was demonstrated.

#### EXAMPLE 11

##### EXPRESSION OF A BREAST TUMOR-DERIVED ANTIGEN IN PROSTATE

Isolation of the antigen B305D from breast tumor by differential display is described in US Patent Application No. 08/700,014, filed August 20, 1996. Several different splice forms of this antigen were isolated. The determined cDNA sequences for these splice forms are provided in SEQ ID NO: 366-375, with the predicted amino acid sequences corresponding to the sequences of SEQ ID NO: 292, 298 and 301-303 being provided in SEQ ID NO: 299-306, respectively.

The expression levels of B305D in a variety of tumor and normal tissues were examined by real time PCR and by Northern analysis. The results indicated that B305D is highly expressed in breast tumor, prostate tumor, normal prostate tumor and normal testes, with expression being low or undetectable in all other tissues examined (colon tumor, lung tumor, ovary tumor, and normal bone marrow, colon, kidney, liver, lung, ovary, skin, small intestine, stomach).

#### EXAMPLE 12

##### ELICITATION OF PROSTATE TUMOR ANTIGEN-SPECIFIC CTL RESPONSES IN HUMAN BLOOD

This Example illustrates the ability of a prostate tumor antigen to elicit a CTL response in blood of normal humans.

Autologous dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal donors by growth for five days in RPMI medium containing 10% human serum, 50 ng/ml GM-CSF and 30 ng/ml IL-4. Following culture, DC were infected overnight with recombinant P501S-expressing vaccinia virus at an M.O.I. of 5 and matured for 8 hours by the addition of 2 micrograms/ml CD40 ligand. Virus was inactivated by UV irradiation, CD8<sup>+</sup> cells were isolated by positive selection using magnetic beads, and priming cultures were initiated in 24-well plates. Following five stimulation cycles, CD8<sup>+</sup> lines were identified that specifically produced interferon-gamma when stimulated with autologous P501S-transduced fibroblasts. The P501S-specific activity of cell line 3A-1 could be maintained following additional stimulation cycles on autologous B-LCL transduced with P501S. Line 3A-1 was shown to specifically recognize autologous B-LCL transduced to

express P501S, but not EGFP-transduced autologous B-LCL, as measured by cytotoxicity assays ( $^{51}\text{Cr}$  release) and interferon-gamma production (Interferon-gamma Elispot; *see above* and Lalvani et al., *J. Exp. Med.* 186:859-865, 1997). The results of these assays are presented in Figures 6A and 6B.

### EXAMPLE 13

#### IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY MICROARRAY ANALYSIS

This Example describes the isolation of certain prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 372 clones were identified, and 319 were successfully sequenced. Table I presents a summary of these clones, which are shown in SEQ ID NOs:385-400. Of these sequences SEQ ID NOs:386, 389, 390 and 392 correspond to novel genes, and SEQ ID NOs: 393 and 396 correspond to previously identified sequences. The others (SEQ ID NOs:385, 387, 388, 391, 394, 395 and 397-400) correspond to known sequences, as shown in Table I.

Table I  
Summary of Prostate Tumor Antigens

Known Genes	Previously identified Genes	Novel Genes
T-cell gamma chain	P504S	23379 (SEQ ID NO:389)
Kallikrein	P1000C	23399 (SEQ ID NO:392)
Vector	P501S	23320 (SEQ ID NO:386)
CGI-82 protein mRNA (23319; SEQ ID NO:385)	P503S	23381 (SEQ ID NO:390)
PSA	P510S	
Ald. 6 Dehyd.	P784P	
L-iditol-2 dehydrogenase (23376; SEQ ID NO:388)	P502S	
Ets transcription factor PDEF (22672; SEQ ID NO:398)	P706P	
hTGR (22678; SEQ ID NO:399)	19142.2, bangur.seq (22621; SEQ ID NO:396)	
KIAA0295(22685; SEQ ID NO:400)	5566.1 Wang(23404; SEQ ID NO:393)	
Prostatic Acid Phosphatase(22655; SEQ ID NO:397)	P712P	

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transglutaminase (22611; SEQ ID NO:395)	P778P	
HDLBP (23508; SEQ ID NO:394)		
CGI-69 Protein(23367; SEQ ID NO:387)		
KIAA0122(23383; SEQ ID NO:391)		
TEEG		

CGI-82 showed 4.06 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 43% of prostate tumors, 25% normal prostate, not detected in other normal tissues tested. L-iditol-2 dehydrogenase showed 4.94 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 90% of prostate tumors, 100% of normal prostate, and not detected in other normal tissues tested. Ets transcription factor PDEF showed 5.55 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% prostate tumors, 25% normal prostate and not detected in other normal tissues tested. hTGR1 showed 9.11 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 63% of prostate tumors and is not detected in normal tissues tested including normal prostate. KIAA0295 showed 5.59 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% of prostate tumors, low to undetectable in normal tissues tested including normal prostate tissues. Prostatic acid phosphatase showed 9.14 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 67% of prostate tumors, 50% of normal prostate, and not detected in other normal tissues tested. Transglutaminase showed 14.84 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 30% of prostate tumors, 50% of normal prostate, and is not detected in other normal tissues tested. High density lipoprotein binding protein (HDLBP) showed 28.06 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% of normal prostate, and is undetectable in all other normal tissues tested. CGI-69 showed 3.56 fold over-expression in prostate tissues as compared to other normal tissues tested. It is a low abundant gene, detected in more than 90% of prostate tumors, and in 75% normal prostate tissues. The expression of this gene in normal tissues was very low. KIAA0122 showed 4.24 fold over-expression in prostate

tissues as compared to other normal tissues tested. It was over-expressed in 57% of prostate tumors, it was undetectable in all normal tissues tested including normal prostate tissues. 19142.2 bangur showed 23.25 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors and 100% of normal prostate. It was undetectable in other normal tissues tested. 5566.1 Wang showed 3.31 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% normal prostate and was also over-expressed in normal bone marrow, pancreas, and activated PBMC. Novel clone 23379 showed 4.86 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in 97% of prostate tumors and 75% normal prostate and is undetectable in all other normal tissues tested. Novel clone 23399 showed 4.09 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 27% of prostate tumors and was undetectable in all normal tissues tested including normal prostate tissues. Novel clone 23320 showed 3.15 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in all prostate tumors and 50% of normal prostate tissues. It was also expressed in normal colon and trachea. Other normal tissues do not express this gene at high level.

#### EXAMPLE 14

##### IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY ELECTRONIC SUBTRACTION

This Example describes the use of an electronic subtraction technique to identify prostate tumor antigens.

Potential prostate-specific genes present in the GenBank human EST database were identified by electronic subtraction (similar to that described by Vasmatizis et al., *Proc. Natl. Acad. Sci. USA* 95:300-304, 1998). The sequences of EST clones (43,482) derived from various prostate libraries were obtained from the GenBank public human EST database. Each prostate EST sequence was used as a query sequence in a BLASTN (National Center for Biotechnology Information) search against the human EST database. All matches considered identical (length of matching sequence >100 base pairs, density of identical matches over this region > 70%) were grouped (aligned) together in a cluster. Clusters containing more than 200 ESTs were discarded since they probably represented repetitive elements or highly expressed genes such as those for ribosomal proteins. If two or more clusters shared common ESTs, those clusters were grouped together into a "supercluster," resulting in 4,345 prostate superclusters.

Records for the 479 human cDNA libraries represented in the GenBank release were downloaded to create a database of these cDNA library records. These 479 cDNA libraries were grouped into three groups, Plus (normal prostate and prostate tumor libraries, and breast cell lines, in which expression was desired), Minus (libraries from other normal adult tissues, in which expression was not desirable), and Other (fetal tissue, infant tissue, tissues found only in women, non-prostate tumors and cell lines other than prostate cell lines, in which expression was considered to be irrelevant). A summary of these library groups is presented in Table II.

**Table II**  
**Prostate cDNA Libraries and ESTs**

Library	# of Libraries	# of ESTs
Plus	25	43,482
Normal	11	18,875
Tumor	11	21,769
Cell lines	3	2,838
Minus	166	
Other	287	

Each supercluster was analyzed in terms of the ESTs within the supercluster. The tissue source of each EST clone was noted and used to classify the superclusters into four groups: Type 1- EST clones found in the Plus group libraries only; no expression detected in Minus or Other group libraries; Type 2- EST clones found in the Plus and Other group libraries only; no expression detected in the Minus group; Type 3- EST clones found in the Plus, Minus and Other group libraries, but the expression in the Plus group is higher than in either the Minus or Other groups; and Type 4- EST clones found in Plus, Minus and Other group libraries, but the expression in the Plus group is higher than the expression in the Minus group. This analysis identified 4,345 breast clusters (*see* Table III). From these clusters, 3,172 EST clones were ordered from Research Genetics, Inc., and were received as frozen glycerol stocks in 96-well plates.

**Table III**  
**Prostate Cluster Summary**

Type	# of Superclusters	# of ESTs Ordered
1	688	677
2	2899	2484
3	85	11
4	673	0
Total	4345	3172

The inserts were PCR-amplified using amino-linked PCR primers for Synteni microarray analysis. When more than one PCR product was obtained for a particular clone, that PCR product was not used for expression analysis. In total, 2,528 clones from the electronic subtraction method were analyzed by microarray analysis to identify electronic subtraction breast clones that had high tumor vs. normal tissue mRNA. Such screens were performed using a Synteni (Palo Alto, CA) microarray, according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Within these analyses, the clones were arrayed on the chip, which was then probed with fluorescent probes generated from normal and tumor prostate cDNA, as well as various other normal tissues. The slides were scanned and the fluorescence intensity was measured.

Clones with an expression ratio greater than 3 (*i.e.*, the level in prostate tumor cDNA was at least three times the level in normal prostate cDNA) were identified as prostate tumor-specific sequences (Table IV). The sequences of these clones are provided in SEQ ID NOs:401-453, with certain novel sequences shown in SEQ ID NOs:407, 413, 416-419, 422, 426, 427 and 450.

**Table IV**  
**Prostate-tumor Specific Clones**

SEQ ID NO.	Sequence Designation	Comments
401	22545	previously identified P1000C
402	22547	previously identified P704P

403	22548	known
404	22550	known
405	22551	PSA
406	22552	prostate secretory protein 94
407	22553	novel
408	22558	previously identified P509S
409	22562	glandular kallikrein
410	22565	previously identified P1000C
411	22567	PAP
412	22568	B1006C (breast tumor antigen)
413	22570	novel
414	22571	PSA
415	22572	previously identified P706P
416	22573	novel
417	22574	novel
418	22575	novel
419	22580	novel
420	22581	PAP
421	22582	prostatic secretory protein 94
422	22583	novel
423	22584	prostatic secretory protein 94
424	22585	prostatic secretory protein 94
425	22586	known
426	22587	novel
427	22588	novel
428	22589	PAP
429	22590	known
430	22591	PSA
431	22592	known
432	22593	Previously identified P777P
433	22594	T cell receptor gamma chain
434	22595	Previously identified P705P
435	22596	Previously identified P707P
436	22847	PAP
437	22848	known
438	22849	prostatic secretory protein 57



439	22851	PAP
440	22852	PAP
441	22853	PAP
442	22854	previously identified P509S
443	22855	previously identified P705P
444	22856	previously identified P774P
445	22857	PSA
446	23601	previously identified P777P
447	23602	PSA
448	23605	PSA
449	23606	PSA
450	23612	novel
451	23614	PSA
452	23618	previously identified P1000C
453	23622	previously identified P705P

## EXAMPLE 15

FURTHER IDENTIFICATION OF PROSTATE TUMOR ANTIGENS  
BY MICROARRAY ANALYSIS

This Example describes the isolation of additional prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 142 clones were identified and sequenced. Certain of these clones are shown in SEQ ID NOs:454-467. Of these sequences SEQ ID NOs:459-461 correspond to novel genes. The others (SEQ ID NOs:454-458 and 461-467) correspond to known sequences.

## EXAMPLE 16

## FURTHER CHARACTERIZATION OF PROSTATE TUMOR ANTIGEN P710P

This Example describes the full length cloning of P710P.

The prostate cDNA library described above was screened with the P710P fragment described above. One million colonies were plated on LB/Ampicillin plates. Nylon membrane filters were used to lift these colonies, and the cDNAs picked up by these filters were then denatured and cross-linked to the filters by UV light. The P710P fragment was radiolabeled and used to hybridize with the filters. Positive cDNA clones were selected and their cDNAs recovered and sequenced by an automatic ABI Sequencer. Four sequences were obtained, and are presented in SEQ ID NOs:468-471.

From the foregoing, it will be appreciated that, although specific embodiments of the invention have been described herein for the purposes of illustration, various modifications may be made without deviating from the spirit and scope of the invention. Accordingly, the present invention is not limited except as by the appended claims.

## CLAIMS

1. An isolated polypeptide comprising at least an immunogenic portion of a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a) sequences recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472;

(b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and

(c) complements of any of the sequence of (a) or (b).

2. An isolated polypeptide according to claim 1, wherein the polypeptide comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing polynucleotide sequences.

3. An isolated polypeptide comprising a sequence recited in any one of SEQ ID NO: 108, 112, 113, 114, 172, 176, 178, 327, 329, 331, 339 and 383.

4. An isolated polynucleotide encoding at least 15 amino acid residues of a prostate tumor protein, or a variant thereof that differs in one or more substitutions, deletions, additions and/or insertions such that the ability of the variant to react with antigen-specific antisera is not substantially diminished, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434,

435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing sequences.

5. An isolated polynucleotide encoding a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing sequences.

6. An isolated polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

7. An isolated polynucleotide comprising a sequence that hybridizes, under moderately stringent conditions, to a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

8. An isolated polynucleotide complementary to a polynucleotide according to any one of claims 4-7.

9. An expression vector comprising a polynucleotide according to any one of claims 4-7.

10. A host cell transformed or transfected with an expression vector according to claim 9.

11. An expression vector comprising a polynucleotide according claim 8.

12. A host cell transformed or transfected with an expression vector according to claim 11.
13. A pharmaceutical composition comprising a polypeptide according to claim 1, in combination with a physiologically acceptable carrier.
14. A vaccine comprising a polypeptide according to claim 1, in combination with a non-specific immune response enhancer.
15. A vaccine according to claim 14, wherein the non-specific immune response enhancer is an adjuvant.
16. A vaccine according to claim 14, wherein the non-specific immune response enhancer induces a predominantly Type I response.
17. A pharmaceutical composition comprising a polynucleotide according to claim 4, in combination with a physiologically acceptable carrier.
18. A vaccine comprising a polynucleotide according to claim 4, in combination with a non-specific immune response enhancer.
19. A vaccine according to claim 18, wherein the non-specific immune response enhancer is an adjuvant.
20. A vaccine according to claim 18, wherein the non-specific immune response enhancer induces a predominantly Type I response.
21. An isolated antibody, or antigen-binding fragment thereof, that specifically binds to a prostate tumor protein that comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472 or a complement of any of the foregoing polynucleotide sequences.

22. A pharmaceutical composition comprising an antibody or fragment thereof according to claim 18, in combination with a physiologically acceptable carrier.

23. A pharmaceutical composition comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a pharmaceutically acceptable carrier or excipient.

24. A pharmaceutical composition according to claim 23, wherein the antigen presenting cell is a dendritic cell or a macrophage.

25. A vaccine comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a non-specific immune response enhancer.

26. A vaccine according to claim 25, wherein the non-specific immune response enhancer is an adjuvant.

27. A vaccine according to claim 25, wherein the non-specific immune response enhancer induces a predominantly Type I response.

28. A vaccine according to claim 25, wherein the antigen-presenting cell is a dendritic cell.

29. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a polypeptide according to claim 1, and thereby inhibiting the development of a cancer in the patient.

30. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a polynucleotide according to claim 4, and thereby inhibiting the development of a cancer in the patient.

31. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antibody or antigen-binding fragment thereof according to claim 21, and thereby inhibiting the development of a cancer in the patient.

32. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antigen-presenting cell that expresses a polypeptide according to claim 1, and thereby inhibiting the development of a cancer in the patient.
33. A method according to claim 32, wherein the antigen-presenting cell is a dendritic cell.
34. A method according to any one of claims 29-32, wherein the cancer is prostate cancer.
35. A fusion protein comprising at least one polypeptide according to claim 1.
36. A fusion protein according to claim 35, wherein the fusion protein comprises an expression enhancer that increases expression of the fusion protein in a host cell transfected with a polynucleotide encoding the fusion protein.
37. A fusion protein according to claim 35, wherein the fusion protein comprises a T helper epitope that is not present within the polypeptide of claim 1.
38. A fusion protein according to claim 35, wherein the fusion protein comprises an affinity tag.
39. An isolated polynucleotide encoding a fusion protein according to claim 35.
40. A pharmaceutical composition comprising a fusion protein according to claim 32, in combination with a physiologically acceptable carrier.
41. A vaccine comprising a fusion protein according to claim 35, in combination with a non-specific immune response enhancer.
42. A vaccine according to claim 41, wherein the non-specific immune response enhancer is an adjuvant.

43. A vaccine according to claim 41, wherein the non-specific immune response enhancer induces a predominantly Type I response.
44. A pharmaceutical composition comprising a polynucleotide according to claim 40, in combination with a physiologically acceptable carrier.
45. A vaccine comprising a polynucleotide according to claim 40, in combination with a non-specific immune response enhancer.
46. A vaccine according to claim 45, wherein the non-specific immune response enhancer is an adjuvant.
47. A vaccine according to claim 45, wherein the non-specific immune response enhancer induces a predominantly Type I response.
48. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a pharmaceutical composition according to claim 40 or claim 44.
49. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a vaccine according to claim 41 or claim 45.
50. A method for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:
- (i) polynucleotides recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; and
  - (ii) complements of the foregoing polynucleotides;
- wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the prostate tumor protein from the sample.
51. A method according to claim 50, wherein the biological sample is blood or a fraction thereof.



52. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated according to the method of claim 50.

53. A method for stimulating and/or expanding T cells specific for a prostate tumor protein, comprising contacting T cells with one or more of:

- (i) a polypeptide according to claim 1;
  - (ii) a polypeptide encoded by a polynucleotide comprising a sequence provided in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
  - (iii) a polynucleotide encoding a polypeptide of (i) or (ii); and/or
  - (iv) an antigen presenting cell that expresses a polypeptide of (i) or (ii);
- under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells.

54. An isolated T cell population, comprising T cells prepared according to the method of claim 53.

55. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population according to claim 54.

56. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4<sup>+</sup> and/or CD8<sup>+</sup> T cells isolated from a patient with at least one component selected from the group consisting of:

- (i) a polypeptide according to claim 1;
- (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
- (iii) a polynucleotide encoding a polypeptide of (i) or (ii); or
- (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate; and

(b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient.

57. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4<sup>+</sup> and/or CD8<sup>+</sup> T cells isolated from a patient with at least one component selected from the group consisting of:

- (i) a polypeptide according to claim 1;
- (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
- (iii) a polynucleotide encoding a polypeptide of (i) or (ii); or
- (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate;

- (b) cloning at least one proliferated cell; and
- (c) administering to the patient an effective amount of the cloned T cells, and thereby inhibiting the development of a cancer in the patient.

58. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with a binding agent that binds to a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; and

(ii) complements of the foregoing polynucleotides;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent; and

(c) comparing the amount of polypeptide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

59. A method according to claim 58, wherein the binding agent is an antibody.

60. A method according to claim 59, wherein the antibody is a monoclonal antibody.

61. A method according to claim 58, wherein the cancer is prostate cancer.
62. A method for monitoring the progression of a cancer in a patient, comprising the steps of:
- (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;
  - (b) detecting in the sample an amount of polypeptide that binds to the binding agent;
  - (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and
  - (d) comparing the amount of polypeptide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.
63. A method according to claim 62, wherein the binding agent is an antibody.
64. A method according to claim 63, wherein the antibody is a monoclonal antibody.
65. A method according to claim 62, wherein the cancer is a prostate cancer.
66. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:
- (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;
  - (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; and

(c) comparing the amount of polynucleotide that hybridizes to the oligonucleotide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

67. A method according to claim 66, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

68. A method according to claim 66, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

69. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polynucleotide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

70. A method according to claim 69, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

71. A method according to claim 69, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

72. A diagnostic kit, comprising:

(a) one or more antibodies according to claim 21; and

(b) a detection reagent comprising a reporter group.

73. A kit according to claim 72, wherein the antibodies are immobilized on a solid support.

74. A kit according to claim 73, wherein the solid support comprises nitrocellulose, latex or a plastic material.

75. A kit according to claim 72, wherein the detection reagent comprises an anti-immunoglobulin, protein G, protein A or lectin.

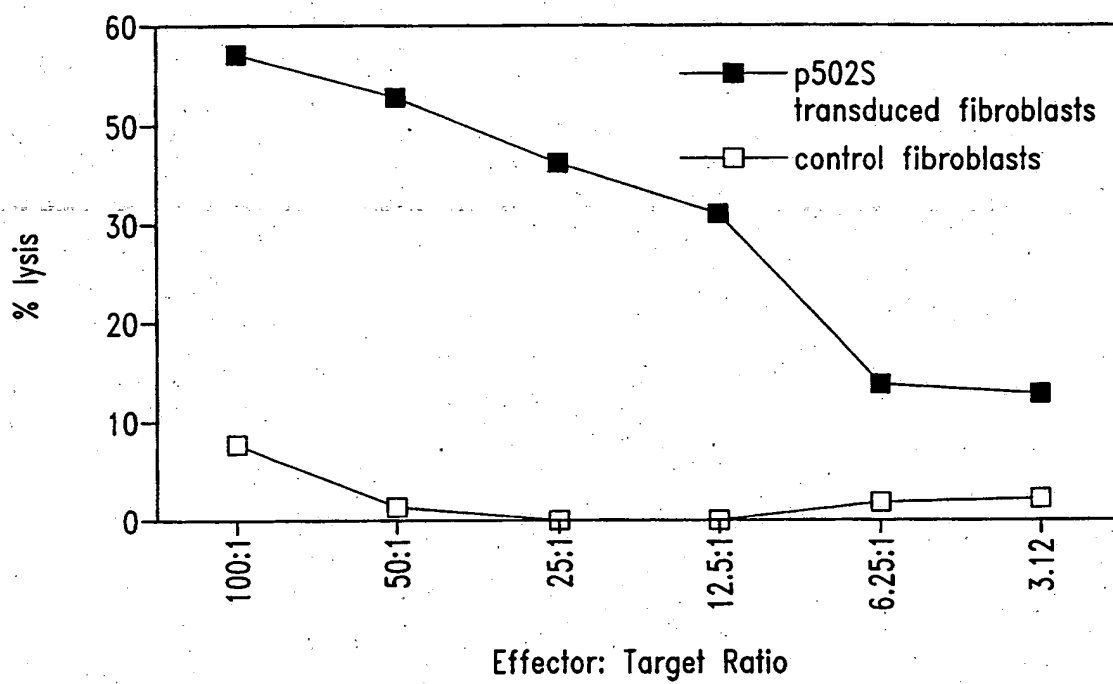
76. A kit according to claim 72, wherein the reporter group is selected from the group consisting of radioisotopes, fluorescent groups, luminescent groups, enzymes, biotin and dye particles.

77. An oligonucleotide comprising 10 to 40 nucleotides that hybridize under moderately stringent conditions to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing polynucleotides.

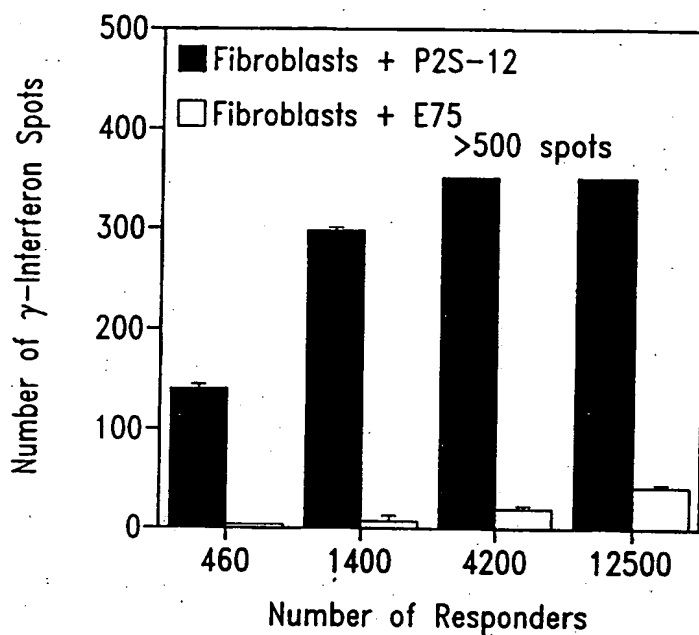
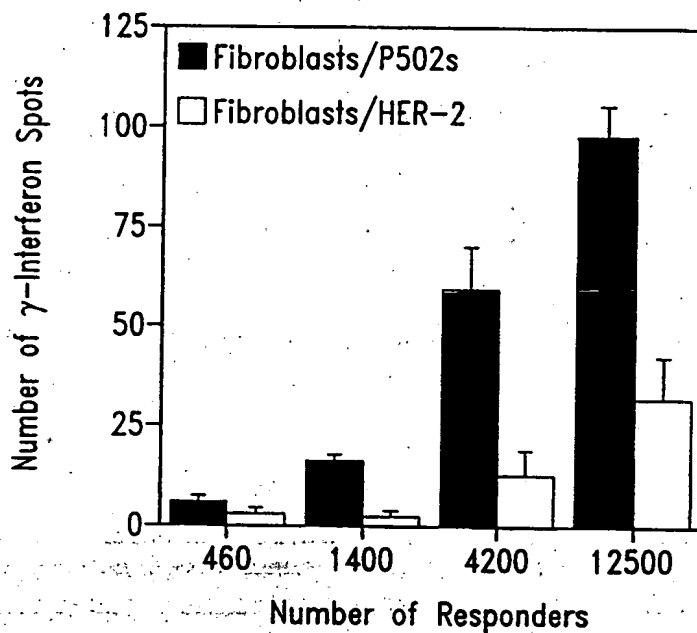
78. A oligonucleotide according to claim 77, wherein the oligonucleotide comprises 10-40 nucleotides recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

79. A diagnostic kit, comprising:  
(a) an oligonucleotide according to claim 77; and  
(b) a diagnostic reagent for use in a polymerase chain reaction or hybridization assay.

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*Fig. 1*

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*Fig. 2A**Fig. 2B*

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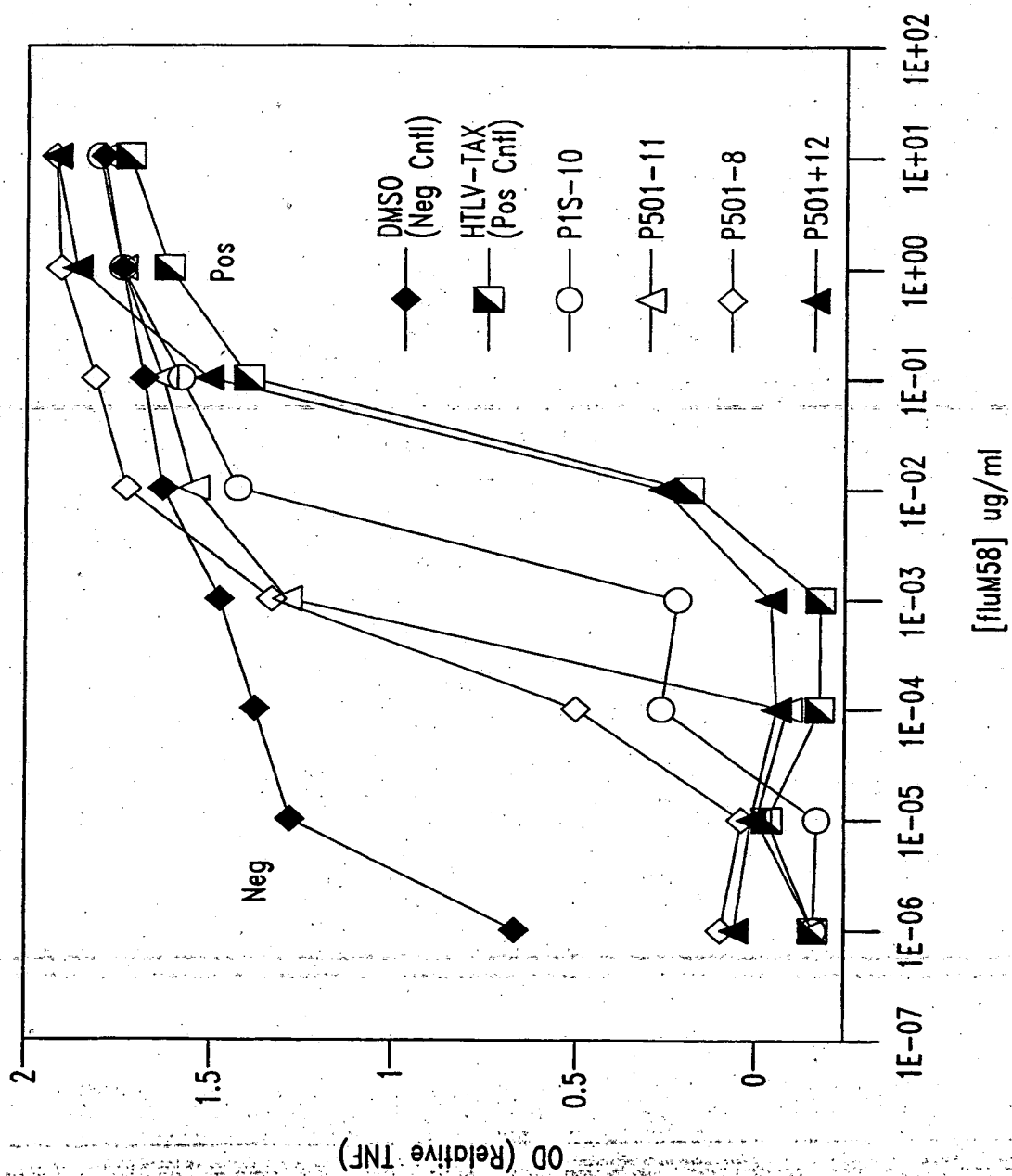
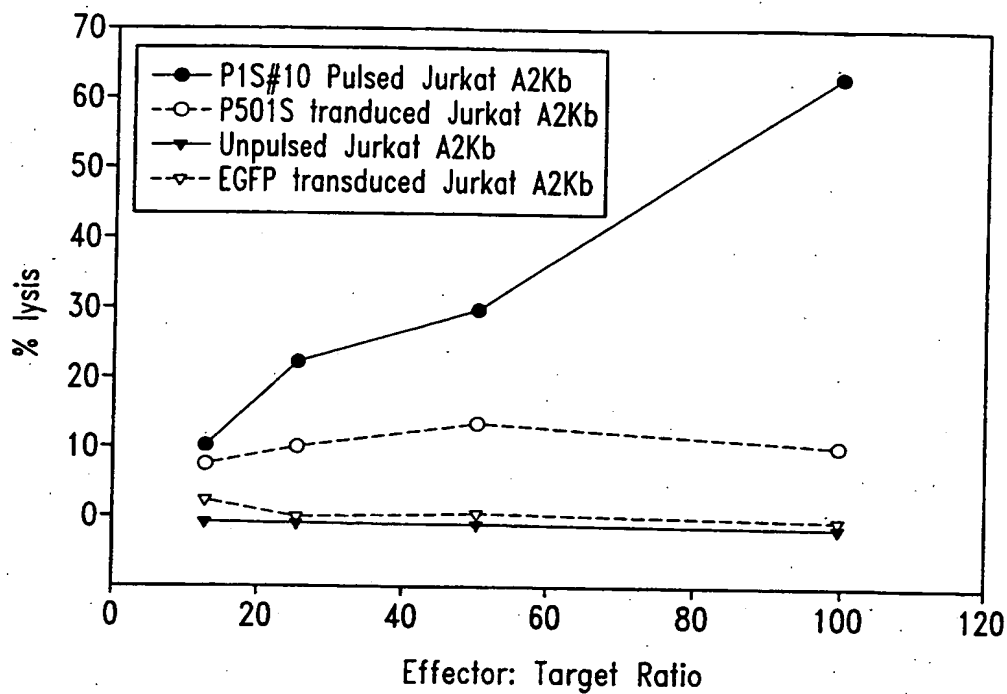
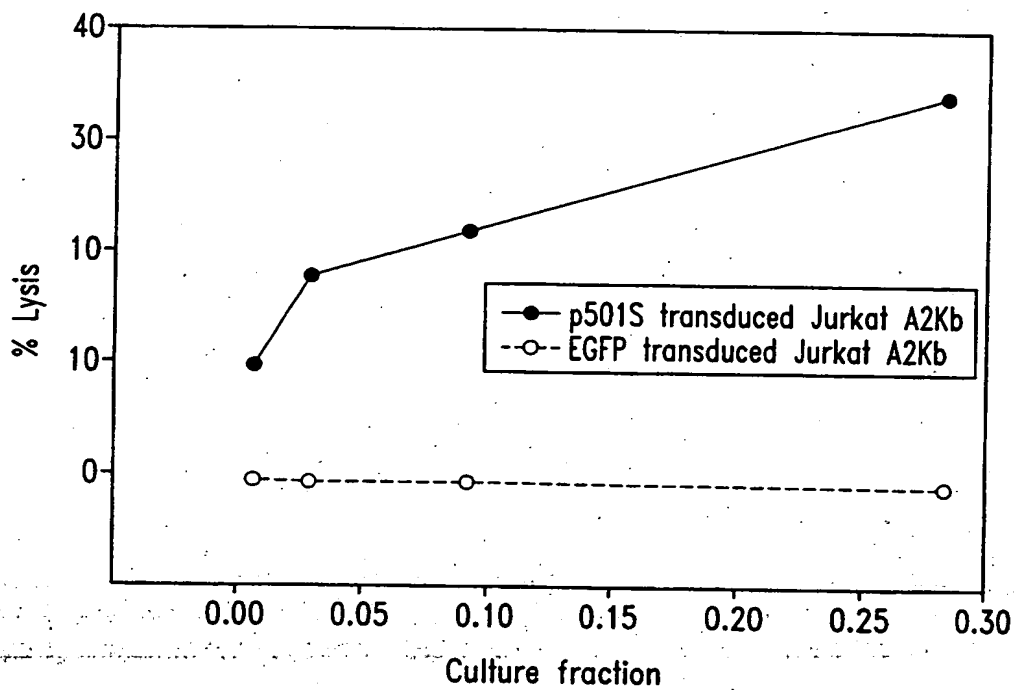


Fig. 3

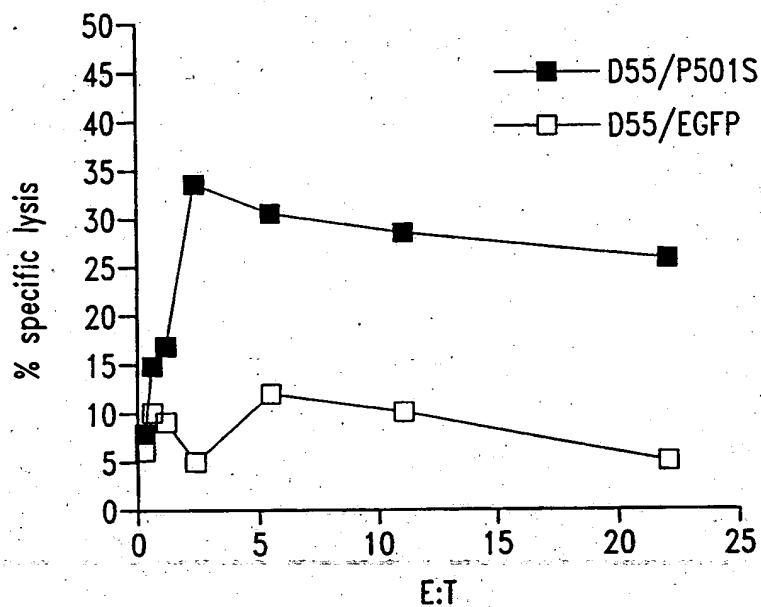
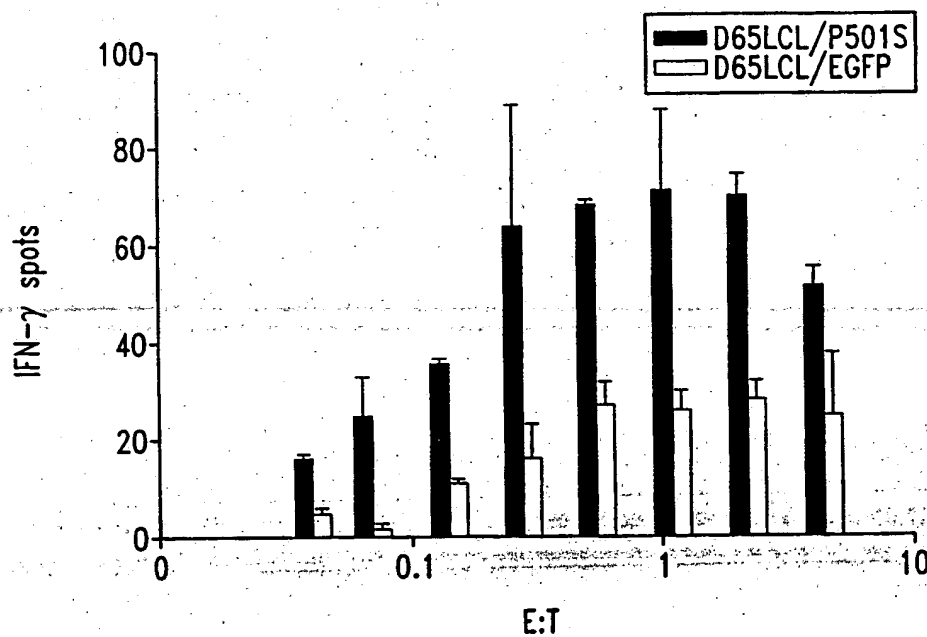


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*Fig. 4**Fig. 5*

SUBSTITUTE SHEET (RULE 26)

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*Fig. 6**Fig. 7*

## SEQUENCE LISTING

&lt;110&gt; Corixa Corporation

<120> COMPOUNDS FOR IMMUNOTHERAPY AND DIAGNOSIS  
OF PROSTATE CANCER AND METHODS FOR THEIR USE

&lt;130&gt; 210121.42701PC

&lt;140&gt; PCT

&lt;141&gt; 1999-07-08

&lt;160&gt; 472

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cattaattgc	gttgcgctca	ctgcccgcct	tccagtcggg	aaaactgtcg	tgccactgen	660
ttantgaatc	ngccaccccc	cgggaaaagg	cggttgcntt	ttgggcctct	tccgctttcc	720
tcgctcattg	atcctngcnc	ccggtcttcg	gctgcggnga	acggttcact	cctcaaaggc	780
ggtntnccgg	ttatccccaa	acnggggata	cccnga			816

&lt;210&gt; 3

&lt;211&gt; 773

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(773)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 3

cttttgaaag	aagggatggc	tggggtgttt	aacagcagag	gtgcagggcg	ggggctcacg	60
tcctgtcct	cactggtgat	aaacgagccc	cgttccttgt	tgtgatcatg	atgaacaacc	120
tcctcaaaag	tcagaaccgg	agtcacacag	gcattctgtg	cgtaaagat	ttgacaccac	180
tctgccttcg	tcttctttgc	aaatacatct	gcaaacttct	tcttcatttc	tgccaatca	240
tccatgctca	tctgattggg	aagttcatca	gactttagtc	canntccttt	gatcagcagc	300
tcgtagaact	ggggttctat	tgctccaaca	gccatgaatt	ccccatctgc	tgctctgtaa	360
gtcgtataga	aagggtgctcc	accatccaac	atgttctgtc	ctcgaggggg	ggcccggtac	420
ccaattcgcc	ctatantgag	tcgtattacg	cgcgctcact	ggccgctcgt	ttacaacgtc	480
gtgactggga	aaaccctggg	cgttaccaac	ttaatcgctt	tgacgacat	ccccctttcg	540
ccagctgggc	gtaatancca	aaaggcccgc	accgatcgcc	cttccaacag	ttgcgcacct	600
gaatgggnaa	atgggacccc	cctgttaccg	cgcattnaac	ccccgcnggg	tttngttgtt	660
acccccacnt	nnaccgctta	cactttgcc	gcgccttanc	gcccgcctcc	tttcnccttt	720
cttcccttcc	tttcncncn	ctttcccccg	gggtttcccc	cntcaaacc	cna	773

&lt;210&gt; 4

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(828)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 4

cctcctgagt	cctactgacc	tgtgctttct	ggtgtggagt	ccagggctgc	taggaaaagg	60
aatgggcaga	cacaggtgta	tgccaatgtt	tctgaaatgg	gtataatttc	gtcctctcct	120
tcggaacact	ggctgtctct	gaagacttct	cgctcagttt	cagtgaggac	acacacaaag	180
acgtgggtga	ccatgttggt	tgtgggggtgc	agagatggga	gggggtgggg	ccaccctgga	240
agagtggaca	gtgacacaag	gtggacactc	tctacagatc	actgaggata	agctggagcc	300
acaatgcatg	aggcacacac	acagcaagga	tgacnctgta	aacatagccc	acgctgtcct	360

gnngggcactg	ggaagcctan	atnaggccgt	gagcanaaag	aaggggagga	tccactagtt	420
ctanagcggc	cgccaccgcg	gtgganctcc	ancctttgtt	cccttttagtg	agggttaatt	480
gcgcgcttgg	cntaatcatg	gtcatanctn	tttcctgtgt	gaaattgtta	tccgctcaca	540
attccacaca	acatacganc	cggaaacata	aantgtaaac	ctgggggtgcc	taatgantga	600
ctaactcaca	ttaattgcgt	tgcgctcact	gcccgccttc	caatcnggaa	acctgtcttg	660
ccncttgcat	tnatgaatcn	gccaaccccc	ggggaaaagc	gtttgcgttt	tgggcgctct	720
tccgcttcct	cntcantta	ntccctncnc	tcggtcattc	cggctgcngc	aaaccgggtc	780
accncctcca	aaggggggtat	tccggtttcc	ccnaatccgg	gganancc		828

&lt;210&gt; 5

&lt;211&gt; 834

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(834)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 5

tttttttttt	tttttactga	tagatggaat	ttattaagct	tttcacatgt	gatagcacat	60
agttttaatt	gcatccaaag	tactaacaaa	aactctagca	atcaagaatg	gcagcatgtt	120
attttataac	aatcaacacc	tgtggctttt	aaaaatttgg	tttcataaga	taattttatac	180
tgaagtaaat	ctagccatgc	ttttaaaaaa	tgctttagg	cactccaagc	ttggcagtta	240
acatttggca	taaacaataa	taaaacaatc	acaatttaat	aaataacaaa	tacaacattg	300
taggccataa	tcatatacag	tataaggaaa	aggtggtagt	gttgagtaag	cagttattag	360
aatagaatac	cttggcctct	atgcaaatat	gtctagacac	tttgattcac	tcagccctga	420
cattcagttt	tcaaagtagg	agacagggtc	tacagtatca	ttttacagtt	tccaacacat	480
tgaaaacaag	tagaaaatga	tgagttgatt	tttattaatg	cattacatcc	tcaagagtta	540
tcaccaaccc	ctcagttata	aaaaattttc	aagttatatt	agtcataata	cttggtgtgc	600
ttatttttaa	ttagtgtctaa	atggattaag	tgaagacaac	aatgggtccc	taatgtgatt	660
gatattgggt	atttttacca	gcttctaaat	ctnaactttc	aggcttttga	actggaacat	720
tgnatnacag	tgttccanag	ttncaaccta	ctggaacatt	acagtgtgct	tgattcaaaa	780
tgttattttg	ttaaaaatta	aatttttaacc	tggtggaaaa	ataatttgaa	atna	834

&lt;210&gt; 6

&lt;211&gt; 818

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(818)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 6

tttttttttt	tttttttttt	aagaccctca	tcaatagatg	gagacataca	gaaatagtca	60
aaccacatct	acaaaatgcc	agtatcaggc	ggcgggttcg	aagccaaagt	gatgtttgga	120
tgtaaagtga	aatattagtt	ggcggatgaa	gcagatagtg	aggaaagtgt	agccaataat	180
gacgtgaagt	ccgtggaagc	ctgtgggtac	aaaaaatgtt	gagccgtaga	tgccgtcgga	240
aatgggtgaag	ggagactcga	agtactctga	ggcttgtagg	agggtaaaat	agagacccag	300
taaaattgta	ataagcagtg	cttgaattat	ttggtttcgg	ttgttttcta	ttagactatg	360
gtgagctcag	gtgattgata	ctcctgatgc	gagtaatacg	gatgtgttta	ggagtgggac	420
ttctagggga	tttagcgggg	tgatgcctgt	tgggggccag	tgccctccta	gttgggggggt	480
aggggctagg	ctggagtggg	aaaaggctca	gaaaaatcct	gcgaagaaaa	aaactttctga	540

ggtaataaat	aggattatcc	cgtatcgaag	gccttttttg	acaggtggtg	tgtggtggcc	600
ttggtatgtg	ctttctcgtg	ttacatcgcg	ccatcattgg	tatatgggta	gtgtgttggg	660
ttantangg	ctantatgaa	gaacttttgg	antggaatta	aatcaatngc	ttggccggaa	720
gtcattanga	nggctnaaaa	ggccctgtta	ngggctctgg	ctngggttta	cccnacccat	780
ggaatncncc	ccccggacna	ntgnatccct	attcttaa			818

&lt;210&gt; 7

&lt;211&gt; 817

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(817)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 7

tttttttttt	tttttttttt	tggctctaga	gggggtagag	ggggtgctat	agggtaaata	60
cgggccctat	ttcaaagatt	tttaggggaa	ttaattctag	gacgatgggt	atgaaactgt	120
ggtttgctcc	acagatttca	gagcattgac	cgtagtatac	ccccggtcgt	gtagcgggta	180
aagtggtttg	gttttagacgt	ccgggaattg	catctgtttt	taagcctaata	gtggggacag	240
ctcatgagtg	caagacgtct	tgtgatgtaa	ttattatacn	aatgggggct	tcaatcggga	300
gtactactcg	attgtcaacg	tcaaggagtc	gcaggtcgcc	tggttctagg	aataatgggg	360
gaagtatgta	ggaattgaag	attaatccgc	cgtagtcggg	gttctcctag	gttcaataacc	420
attgggtggc	aattgatttg	atggtaaggg	gagggatcgt	tgaactcgtc	tgttatgtaa	480
aggatncctt	ngggatggga	aggcnatnaa	ggactangga	tnaatggcgg	gcangatatt	540
tcaaacngtc	tctanttcct	gaaacgtctg	aaatgttaata	aanaattaan	tttngttatt	600
gaatnttng	gaaaagggtc	tacaggacta	gaaaccaaata	angaaaanta	atnntaangg	660
cnttatcntn	aaaggtmata	accnctccta	tnatcccacc	caatngnatt	ccccacnenn	720
acnattggat	nccccanttc	canaaaanggc	cnccecccg	tgnannccnc	cttttgttcc	780
cttnantgan	ggttattcnc	ccctngcntt	atcance			817

&lt;210&gt; 8

&lt;211&gt; 799

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(799)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 8

catttccggg	tttactttct	aaggaaagcc	gagcgggaagc	tgctaactgtg	ggaatcggtg	60
cataaggaga	actttctgct	ggcacgcgct	agggacaagc	gggagagcga	ctccgagcgt	120
ctgaagcgca	cgtcccagaa	ggtggacttg	gcactgaaac	agctgggaca	catccgcgag	180
tacgaacagc	gcctgaaagt	gctggagcgg	gaggtccagc	agtgtagccg	cgtcctgggg	240
tgggtggccg	angcctganc	cgtctgcct	tgctgcccc	angtgggccc	ccacccccctg	300
acctgcctgg	gtccaaacac	tgagccctgc	tggcggactt	caagganaac	ccccacangg	360
ggattttgct	cctanantaa	ggctcatctg	ggcctcgccc	ccccacctg	gttggccttg	420
tctttgagtg	gagccccatg	tccatctggg	ccactgtcng	gaccaccttt	ngggagtgtt	480
ctccttacaa	gcacannatg	cccggctcct	cccggaaacc	antcccance	tgngaaggat	540
caagnccctg	atccactnnt	nctanaaccg	gcncncnccg	cngtggaaacc	cnccttntgt	600
tccttttctn	tnagggttaa	tnnccgcttg	gccttccncc	ngtcctnccn	nttttccnnt	660
gttnaaattg	ttangcnccc	nccnntcccn	cnnccnccnn	cccgaccenn	annttnnann	720

ncctgggggt nccnnngat tgaccenncc nccctntant tgcnttnggg ncnntgccc 780  
ctttccctct nggganncg 799

<210> 9  
<211> 801  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(801)  
<223> n = A,T,C or G

<400> 9  
acgccttgat cctcccaggc tgggactggg tctgggagga gccgggcatg ctgtgggttg 60  
taangatgac actcccaaag gtggtcctga cagtggccca gatggacatg gggctcacct 120  
caaggacaag gccaccaggc gcggggggccg aagcccacat gatccttact ctatgagcaa 180  
aatccctctgt ggggggcttct ccttgaagtc cgccancagg gtcagtcctt tggacccang 240  
cagggtcatgg gggtgtngnc caactggggg ccncaacgca aaanggcncg gggcctcngn 300  
caccatccc angacgggc tacactnctg gacctccnc tccaccactt tcatgcgctg 360  
ttentaccg cgnatntgtc ccactgttt cngtgcenac tccancttct nggacgtgcg 420  
ctacatacgc cgggancnc nctcccgtt tgtccctatc cagtnccan caacaaattt 480  
cncctantg caccnattcc cacntttnc agntttccnc nncgngcttc cttntaaaag 540  
ggttganccc cggaaaatnc cccaaagggg gggggccngg tacccaactn cccctnata 600  
gctgaantcc ccatnaccnn gnctcnatgg anccntcent tttaannacn ttctnaactt 660  
gggaanance ctcgncentn ccccnttaa tcccncttg cnangnnent ccccnntcc 720  
nccnnntng gcntntnann cnaaaaaggc ccnnnancaa tctcctnnen cctcanttcg 780  
ccanccctcg aaatcgccn c 801

<210> 10  
<211> 789  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(789)  
<223> n = A,T,C or G

<400> 10  
cagtctatnt ggccagtgtg gcagctttcc ctgtggctgc cggtgccaca tgccgtgccc 60  
acagtgtggc cgtggtgaca gcttcagccg ccttcaccgg gttcaccttc tcagccctgc 120  
agatcctgcc ctacacactg gcctccctct accaccggga gaagcagggtg ttccctgccc 180  
aataccgagg ggacactgga ggtgctagca gtgaggacag cctgatgacc agcttcctgc 240  
caggccctaa gcctggagct cccttcctta atggacacgt ggggtgctgga ggcagtggcc 300  
tgctcccacc tccaccgcg ctctgcgggg cctctgctg tgatgtctcc gtacgtgtgg 360  
tggtgggtga gccaccgan gccagggtgg ttccgggccc gggcatctgc ctggacctcg 420  
ccatcctgga tagtgcttcc tgetgtccca ngtggcccca tccctgttta tgggctccat 480  
tgtccagctc agccagtctg tcaactgccta tatggtgtct gccgcaggcc tgggtctggg 540  
cccatttact ttgtacaca ggtantattt gacaagaacg anttggccaa atactcagcg 600  
ttaaaaaatt ccagcaacat tgggggtgga aggcctgcct cactgggtcc aactccccgc 660  
tcctgttaac cccatggggc tgccggcttg gccgccaatt tctgttgctg ccaaantnat 720  
gtggctctct gctgccacct gttgctggct gaagtgcnta cngcncanct nggggggtng 780  
gnggttccc 789

<210> 11  
 <211> 772  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(772)  
 <223> n = A,T,C or G

<400> 11

cccaccctac	ccaaatatta	gacaccaaca	cagaaaagct	agcaatggat	tcccttctac	60
tttgttaaat	aaataagtta	aatattttaa	tgcctgtgtc	tctgtgatgg	caacagaagg	120
accaacaggc	cacatcctga	taaaaggtaa	gaggggggtg	gacagcāaa	aagacagtgc	180
tgtgggctga	ggggacctgg	ttcttgtgtg	ttgcccctca	ggactcttcc	cctacāata	240
actttcatat	gttcaaatcc	catggaggag	tgtttcatcc	tagaaactcc	catgcaagag	300
ctacattaaa	cgaagctgca	ggttaagggg	cttanagatg	ggāaaccagg	tgactgagtt	360
tattcagctc	ccāāāāacc	ttctctaggt	gtgtctcaac	taggagggta	gctgttaacc	420
ctgagcctgg	gtaatccacc	tgcagagtcc	ccgcattcca	gtgcatggāa	cccttctggc	480
ctccctgtat	aagtccagac	tgāaaccccc	ttggaaggnc	tccagtccagg	cagccctana	540
aactggggāa	āāāgāāāāg	gacgcccān	ccccagctg	tgcānctacg	cacctcaaca	600
gcacagggtg	gcagcāāāāā	aaccacttta	ctttggcaca	aacāāāāact	nggggggggca	660
accccggcac	ccnāngggg	gttaacagga	āncngggnaa	cntggaaccc	aattnaggca	720
ggccnccac	ccnāatntt	gctgggāaat	ttttcctccc	ctāatnttt	tc	772

<210> 12  
 <211> 751  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(751)  
 <223> n = A,T,C or G

<400> 12

gccccāattc	cagctgccac	accaccacg	gtgactgcat	tagttcggat	gtcāacāāā	60
agctgattga	agcāaccctc	tactttttgg	tctgtgacct	tttgcttgg	gcaggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaā	cagāatgggg	gāāaggcact	gttctctttg	180
aagtānggtg	agtcctcāāā	atccgtatag	ttgggtgāgc	cacagcactt	gagccctttc	240
atgggtgggt	tccacacttg	agtgaagtct	tcctgggāac	cāatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	ggaagtgtc	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgcn	acctcagcāā	tgaagatgan	gaggāngatg	āgāāgāacg	tcncgagggc	420
acacttgtct	tcagtcttan	caccatānca	gccntgāāā	accāānānca	āgaccacna	480
cnccggtgc	gatgāgāāā	tnacccncg	ttgācāāact	tgcatggcac	tgggānccac	540
agtggcccnā	āāāatcttca	āāāaggatgc	cccātnatt	gaccccccāā	atgcccactg	600
ccaacagggg	ctgccccācn	cncnāacga	tgāncnatt	gnācāagatc	tncntggtct	660
tnatnācnt	gāaccctgcn	tngtggctcc	tgttcaggnc	cnnggcctga	cttctnāann	720
āāngāactcn	gāāgncccca	cnggānānc	g			751

<210> 13  
 <211> 729  
 <212> DNA  
 <213> Homo sapien



&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(729)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 13

gagccaggcg	tccctctgcc	tgcccactca	gtggcaacac	ccgggagctg	ttttgtcctt	60
tgtggancct	cagcagtncc	ctctttcaga	actcantgcc	aaganccttg	aacaggagcc	120
accatgcagt	gcttcagctt	cattaagacc	atgatgatcc	tcttcaattt	gctcatcttt	180
ctgtgtggtg	cagccctggt	ggcagtgggc	atctgggtgt	caatcgatgg	ggcatccttt	240
ctgaagatct	tcggggccact	gtcgtccagt	gccatgcagt	ttgtcaacgt	gggctacttc	300
ctcatcgcag	ccggcggtgt	ggtcttagct	ctaggtttcc	tgggctgcta	tgggtgctaag	360
actgagagca	agtgtgccct	cgtgacgttc	ttcttcatcc	tcctcctcat	cttcattgct	420
gaggttgcaa	tgtgtgggtc	gccttggtgt	acaccacaat	ggctgagcac	ttcctgacgt	480
tgtgtgtaat	gcctgccatc	aanaaaagat	tatgggttcc	caggaanact	tcactcaagt	540
gttgaacac	caccatgaaa	gggctcaagt	gctgtggctt	cnnccaacta	tacggatttt	600
gaagantcac	ctacttcaaa	gaaaanagtg	cctttccccc	atttctgttg	caattgacaa	660
acgtccccaa	cacagccaat	tgaaaacctg	cacccaaccc	aaanggggtcc	ccaaccanaa	720
attnaagg						729

&lt;210&gt; 14

&lt;211&gt; 816

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(816)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 14

tgtcttctct	caaagttggt	cttgttgcca	taacaaccac	cataggtaaa	gcgggcgag	60
tgttcgctga	aggggttgta	gtaccagcgc	gggatgctct	ccttgcagag	tcctgtgtct	120
ggcagggtcca	cgcagtgcc	ttgtcactg	gggaaatgga	tgcgctggag	ctcgtcaaag	180
ccactcgtgt	atttttcaca	ggcagcctcg	tccgacgcgt	cggggcagtt	gggggtgtct	240
tcacactcca	ggaaactgtc	natgcagcag	ccattgctgc	agcggaaactg	ggtgggctga	300
cangtgccag	agcacactgg	atggcgccct	tccatgnnan	gggccctgng	ggaaagtccc	360
tganccecan	anctgcctct	caaangcccc	accttgacac	ccccgcagag	ctagaatgga	420
atcttcttcc	cgaaaggtag	ttnttcttgt	tgcccaancc	anccccntaa	acaaactctt	480
gcanatctgc	tccgnggggg	tcntantacc	ancgtgggaa	aagaacccca	ggcngcgaac	540
caancttggt	tggatncgaa	gcnataatct	ncnttctgc	ttggtggaca	gcaccantna	600
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gggacaagg	aantngccnt	cctttnaatt	cccnanctn	ccccctgggt	tgggggtttt	720
cncnctccta	ccccagaaan	nccgtgttcc	cccccaacta	ggggccnaaa	ccnnttnttc	780
cacaacctn	ccccacccac	gggttcngnt	ggttng			816

&lt;210&gt; 15

&lt;211&gt; 783

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(783)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 15

ccaaggcctg	ggcaggcata	nacttgaagg	tacaacccca	ggaaccctg	gtgctgaagg	60
atgtggaaaa	cacagattgg	cgctactgc	gggtgacac	ggatgtcagg	gtagagagga	120
aagacccaaa	ccaggtggaa	ctgtggggac	tcaaggaang	cacctacctg	ttccagctga	180
cagtgactag	ctcagaccac	ccagaggaca	cggccaacgt	cacagtcact	gtgctgtcca	240
ccaagcagac	agaagactac	tgcctcgcat	ccaacaangt	gggtcgctgc	cggggctctt	300
tcccacgctg	gtactatgac	cccacggagc	agatctgcaa	gagtttcgtt	tatggaggct	360
gcttgggcaa	caagaacaac	taccttcggg	aagaagagtg	cattctancc	tgtcnggggtg	420
tgcaagggtg	gcctttgana	ngcanctctg	gggctcangc	gactttcccc	cagggccctt	480
ccatggaaa	gcgccatcca	ntgttctctg	gcactgtca	gcccacccag	ttccgctgca	540
ncaatggctg	ctgcatcnac	antttcctng	aattgtgaca	acacccccc	ntgcccccaa	600
ccctcccaac	aaagcttccc	tgttnaaaaa	tacnccantt	ggcttttnac	aaacncccg	660
cncctcctt	ttccccntn	aacaaagggc	nctngcctt	gaactgccn	aaccnnggaa	720
tctnccnng	aaaaantncc	ccccctggtt	cctnnaancc	cctccncaa	anctncccc	780
ccc						783

&lt;210&gt; 16

&lt;211&gt; 801

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(801)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 16

gccccaatc	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaaccctc	tacttttttg	tcgtgagcct	tttgcttggg	gcaggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtaggggtg	agtcctcaaa	atccgtatag	ttgggtgaagc	cacagcactt	gagccctttc	240
atgggtgggtg	tccacacttg	agtgaagtct	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	gaagtgctca	gccattgtgg	tgtacaccaa	ggcgaccaca	360
gcagctgcaa	cctcagcaat	gaagatgagg	aggaggatga	agaagaacgt	cncgagggca	420
cacttgctct	ccgtcttagc	accatagcag	cccangaaac	caagagcaaa	gaccacaacg	480
ccngctgcga	atgaaagaaa	ntacccacgt	tgacaaaactg	catggccact	ggacgacagt	540
tggcccgaan	atcttcagaa	aagggatgcc	ccatcgattg	aacacccana	tgcccactgc	600
cnacagggct	gcncncncn	gaaagaatga	gccattgaag	aaggatcnc	ntgggtcttaa	660
tgaactgaaa	ccntgcatgg	tggcccctgt	tcagggtctt	tggcagtga	ttctganaaa	720
aaggaacngc	ntnagcccc	ccaaangana	aaacaccccc	gggtgttgcc	ctgaattggc	780
ggccaaggan	ccctgccccn	g				801

&lt;210&gt; 17

&lt;211&gt; 740

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(740)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 17

gtgagagcca	ggcgtccctc	tgccctgcca	ctcagtggca	acaccggga	gctgttttgt	60
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cctttgtgga gcctcagcag ttccctcttt cagaactcac tgccaagagc cctgaacagg 120
agccaccatg cagtgttca gcttcattaa gaccatgatg atcctcttca atttgctcat 180
ctttctgtgt ggtgcagccc tgttggcagt gggcatctgg gtgtcaatcg atggggcatc 240
ctttctgaag atcttcgggc cactgtcgtc cagtgccatg cagtttgtca acgtgggcta 300
cttctcctc gcagccggcg ttgtggtctt tgctcttggg ttccctgggct gctatggtgc 360
taagacggag agcaagtgtg ccctcgtgac gttcttcttc atcctcctcc tcctcttcat 420
tgctgaagtt gcagctgctg tggtcgcctt ggtgtacacc acaatggctg aaccattcct 480
gacgttgctg gtantgctg ccatcaanaa agattatggg ttcccaggaa aaattcactc 540
aantntggaa caccnccatg aaaagggtc caatttctgn tggttcccc aactataccg 600
gaattttgaa agantcnccc tacttccaaa aaaaaanant tgctttncc cccnttctgt 660
tgcaatgaaa acntcccaan acngccaatn aaaacctgcc cnnncaaaaa ggntcncaaa 720
caaaaaaant nnaagggttn 740

```

&lt;210&gt; 18

&lt;211&gt; 802

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(802)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 18

```

ccgctgggtg cgctgggtcca gngnagccac gaagcacgtc agcatacaca gcctcaatca 60
caaggctctt cagctgcccgc acattacgca gggcaagagc ctccagcaac actgcatatg 120
ggatacactt tacttttagca gccagggtga caactgagag gtgtcgaagc ttattcttct 180
gagcctctgt tagtggagga agattccggg cttcagctaa gtatgcagcg tatgtcccat 240
aagcaaacac tgtgagcagc cggaaggtag aggcaagtc actctcagcc agctctctaa 300
cattgggcat gtccagcagt tctccaaaca cgtagacacc agnggcctcc agcacctgat 360
ggatgagtgt ggccagcgct gcccccttgg ccgacttggc taggagcaga aattgctcct 420
ggttctgccc tgtcaccttc acttcgcgac tcatactgc actgagtgtg ggggacttgg 480
gctcaggatg tccagagacg tggttccgcc ccctcnctta atgacaccgn ccanncaacc 540
gtcggtctcc gccgantgng ttcgtcgtnc ctgggtcagg gtctgctggc cnetacttgc 600
aancttcgtc nggccccatg aattcacnc accggaactn gtangatcca ctnttctat 660
aaccgncgc caccgcnnt ggaactccac tcttnttnc tttacttgag ggtaagggtc 720
acccttnncg ttaccttggg ccaaaccntn cntgtgtcg anantngtna tcnngnccna 780
tnccancnc atangaagcc ng 802

```

&lt;210&gt; 19

&lt;211&gt; 731

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(731)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 19

```

cnaagcttcc aggtnacggg ccgcnaanc tgaccnagg tancanaang cagnncggg 60
gagccaccg tcacngngng gngtctttat nggagggggc ggagccacat cnetggacnt 120
cntgacccca actcccncc ncnantgca gtgatgagt cagaactgaa ggtnacgtgg 180
caggaaccaa gancaaannc tgctccnntc caagtcggcn nagggggcgg ggctggccac 240
gcncatccnt cnagtgtgn aaagccccnn cctgtctact tgtttgaga acngcnnga 300

```

catgcccagn	gttānataac	nggcngagag	tnantttgcc	tctcccttcc	ggctgcgcan	360
cgngtntgct	tagnggacat	aacctgacta	cttaactgaa	cccngaate	tncnccct	420
ccactaagct	cagaacaaaa	aacttcgaca	ccactcantt	gtcacctgnc	tgctcaagta	480
aagtgtaccc	catncccaat	gtntgctnga	ngctctgncc	tgcnttangt	tcggctctgg	540
gaagacctat	caattnaagc	tatgtttctg	actgcctctt	gtccctgna	acaancnacc	600
cnnctntcca	agggggggnc	ggcccccaat	ccccccaacc	ntnaattnan	tttanccecn	660
ccccnggcc	cggcctttta	cnancntcnn	nnacngggna	aaaccnnngc	tttncccaac	720
nnaatecncc	t					731

&lt;210&gt; 20

&lt;211&gt; 754

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(754)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 20

tttttttttt	tttttttttt	taaaaacccc	ctccattnaa	tgnaaacttc	cgaaattgtc	60
caacccccctc	ntccaaatnn	ccntttccgg	gnngggggttc	caaacccean	ttanntttgg	120
annttaaatt	aaatnttntt	tgnggggnna	ancnaatgt	nangaaagtt	naaccanta	180
tnacttnaa	tncttgaaa	ccngtngntt	ccaaaaatnt	ttaaccetta	antccctccg	240
aaatngttna	nggaaaaccc	aantttctnt	aaggttggtt	gaaggntnaa	tnaaaaancc	300
nnccaattgt	ttttngccac	gcctgaatta	attggnttcc	gntgttttcc	nttaaaaanaa	360
ggnnancccc	ggttantnaa	tccccccnnc	cccaattata	ccganttttt	ttngaattgg	420
gancccnccg	gaattaacgg	ggnnnnntccc	tnttgggggg	cnngnncccc	ccccntccgg	480
ggttngggnc	aggnncnaat	tgtttaaggg	tccgaaaaat	ccctccnaga	aaaaaanctc	540
ccaggntgag	nntnggggtt	nncccccccc	cangggccct	ctcgananagt	tgggggtttg	600
ggggcctggg	attttntttc	ccctnttncc	tcccccccc	ccnggganag	aggttngngt	660
tttgntcnn	ggccccnccn	aaganctttn	ccganttnan	ttaaatcctt	gcctnggcga	720
agtccttgn	agggntaaan	ggccccctnn	cggg			754

&lt;210&gt; 21

&lt;211&gt; 755

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(755)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 21

atcancccat	gacccnaac	nggggaccnc	tcancgggnc	nnnchaccnc	cggcenatca	60
nngtagnnnc	actncnnttn	natacncccc	cnccnactac	gccncnanc	cnacgcnta	120
nncanatncc	actganngcg	cgangtngan	ngagaaanct	nataccanag	ncaccanacn	180
ccagctgtcc	nanaangcct	nnnatacngg	nnnatccaat	ntgnancttc	cnaagtattn	240
nncnncanat	gattttcctn	anccgattac	ccntncccc	tancccttcc	cccccaacna	300
cgaaggcnct	ggncnnaagg	nngcgnccnc	ccgctagntc	cccnncaggt	cncncncta	360
aactcanccn	nattacncgc	ttcntgagta	tactccccg	aatctcacc	tactcaactc	420
aaaaanactn	gatacaaaat	aatncaagcc	tgnttatnac	actntgactg	ggctcttatt	480
ttagnngtcc	ntnaancntc	ctaatacttc	cagtctncct	tcnccaattt	ccnaanggct	540
ctttcngaca	gcatnttttg	gttcccnntt	gggttcttan	ngaattgccc	ttcntngaac	600

```

gggctctctt tttccttcgg ttancttggn ttennecggc cagttattat ttcccntttt 660
aaattctntc cntttanttt tggcnttcna aacccccggc ctgaaaacg gccccctggt 720
aaaaggttgt tttganaaaa tttttgtttt gtccc 755

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```

<210> 22
<211> 849
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(849)
<223> n = A,T,C or G

```

```

<400> 22
tttttttttt tttttangtg tngtcgtgca ggtagaggct tactacaant gtgaanacgt 60
acgctnggan taangcgacc cganttctag ganncnccct aaaatcanac tgtgaagatn 120
atcctgnnna cggaanggtc accggnggat nntgctaggg tgncnctcc canncnttn 180
cataactcng nggccctgcc caccaccttc ggcggcccng ngnccgggcc cgggtcattn 240
gnnttaaccn cactnngcna ncggtttccn nccccnnng acccnggcga tccgggggtnc 300
tctgtcttcc cctgnagncn anaaantggg ccncggnccc ctttaccctt nnacaagcca 360
cngccttcta nccnngccc cccctccant nngggggact gccnanngt ccgttncctng 420
nnaccccnnn gggtnectcg gttgtcgant cnaccgnang ccanggatc cnaaggaagg 480
tgcgttnttg gcccctaccc ttcgctnecg nncaccttc ccgacnanga nccgctcccg 540
cncnncgnng cctcncctcg caacacccgc nctcntcngt nccggnnccc ccccaccgc 600
nccctcnnc ngncgnancn ctcnccncc gtctcannca ccaccccgcc ccgccaggcc 660
ntcanccacn ggnngacnng nagnccntc gcncgcgcgn gcgnccctt cgcncngaa 720
ctnctcngg ccantnncgc tcaancnna cnaaacgccg ctgcgcggcc cgnagcgncc 780
nccctcnega gtcctcccg cttccnacc angnnttccn cgaggacacn nnaccccgcc 840
nncangcgg 849

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```

<210> 23
<211> 872
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(872)
<223> n = A,T,C or G

```

```

<400> 23
gcgcaaacta tacttcgctc gnactcgtgc gcctcgtcnc tcttttctc cgcaaccatg 60
tctgacnanc ccgattnggc ngatatcnan aagntcganc agtccaaact gantaacaca 120
cacacnncan aganaaatcc nctgccttcc anagtanacn attgaacnng agaaccangc 180
nggcgaatcg taatnaggcg tgcgcgcgca atntgtcncc gtttatttnn ccagctcnc 240
ctnccnacc tacntcttcn nagctgtcnn acccctngtn cgnaccccc naggtcgggg 300
tcgggtttnn nntgaccgng cnncccttcc cccntccat nacganccnc ccgcaccacc 360
nanngcncgc nccccgnct cttcgccncc ctgtccttnn cccctgtngc ctggcncngn 420
accgcattga cctcgcgnn ctncnngaaa ncnanacgt cggggttgnn annancgctg 480
tgggningcg tctgncgcg gtcccttcn ncncttcca ccatcttct tacnggggtc 540
ccnccctc tcnncacnc cctgggacgc tntcctntgc ccccttnac tccccctt 600
cngcgtgnc cgncccccac ntcatttnca nacgntcttc acaannncc ggntnnctcc 660
cnancnncn gtcancnag ggaaggngg ggnccnntg nttgacgtg ngngangtc 720
cgaanantcc tcnccntcan cnctaccct cgggcgnct ctngttnc aacttancaa 780

```

ntctcccccg ngngcncttc tcagcctcnc ccnccccnct ctctgcantg tncctctgctc 840  
tnaccnntac gantnttcgn cncctctctt cc 872

<210> 24

<211> 815

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(815)

<223> n = A,T,C or G

<400> 24

gcacgcaagc	ttgagtattc	tatagngtca	cctaaatanc	ttggcntaat	catggtcnta	60
nctgncttcc	tgtgtcaaat	gtatacnaan	tanatatgaa	tctnatntga	caagannnga	120
tctnncatta	gtaacaantg	tnntgtccat	cctgtcngan	canattccca	tnnattncgn	180
cgcattcnch	gncantatn	taatngggaa	ntcnntnnn	ncaccnncat	ctatcntncc	240
gncacctgac	tggnagagat	ggatnanttc	tnntntgacc	nacatgttca	tcttggattn	300
aanancccc	cgcngnccac	cggttngnng	cnagccnntc	ccaagacctc	ctgtggaggt	360
aacctgcgtc	aganncatca	aacntgggaa	acccgcnncc	angtnnaagt	ngnnncanan	420
gatcccgacc	aggnttnacc	atcccttcnc	agcgccccct	ttngtgcctt	anagnngnagc	480
gtgtccnanc	cnetcaacat	ganacgcgac	agnccanccg	caattnggca	caatgtcgnc	540
gaaccccccta	gggggagnta	tncaaanccc	caggattgtc	cncncangaa	atcccnanc	600
ccnccccctac	ccncttttgg	gacngtgacc	aantccccga	gtncaggtcc	ggccngnctc	660
ccccaccggt	nnccttgggg	gggtgaanct	cngnntcanc	cngnccgagg	ntcgnaagga	720
accggncctn	ggncgaanng	ancnntcnga	agngccnctc	cgtataaccc	cccccncca	780
nccnacngnt	agntcccccc	cngggtnccg	aangg			815

<210> 25

<211> 775

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(775)

<223> n = A,T,C or G

<400> 25

ccgagatgtc	tcgctccgtg	gccttagctg	tgctcgcgct	actctctctt	tctggcctgg	60
aggctatcca	gcgtactcca	aagattcagg	tttactcacg	tcattccagca	gagaatggaa	120
agtcaaat	cctgaattgc	tatgtgtctg	ggtttcatcc	atccgacatt	gaanttgact	180
tactgaagaa	tgganagaga	attgaaaaag	tgagacattc	agacttgtct	tacagcaagg	240
actggtcttt	ctatctcntg	tactacactg	aattcacccc	cactgaaaaa	gatgagtatg	300
cctgccgtgt	gaaccatgtg	actttgtcac	agcccaagat	agttaagtgg	gatcgagaca	360
tgtaagcagn	cnnatggaa	gtttgaagat	gccgcatttg	gattggatga	attccaaatt	420
ctgcttgctt	gcnthttaat	antgatatgc	ntatacacc	taccctttat	gnccccaaat	480
tgtaggggtt	acatnantgt	tcnctnngga	catgatcttc	ctttataant	ccnctnttcg	540
aattgcccgt	cncctngttn	ngaagtgttc	cnaaccacg	gttggctccc	ccaggtcncc	600
tcttacggaa	gggcctgggc	cnccttncaa	ggttggggga	accnaaaatt	tcnctnttgc	660
ccncccncca	cnntcttgng	nncncanttt	ggaacccttc	cnattcccc	tggcctenna	720
nccttnncta	anaaaacttn	aaancgtngc	naaanntttn	acttcccccc	ttacc	775

<210> 26

<211> 820  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(820)  
 <223> n = A,T,C or G

<400> 26

anattantac	agtgtaatct	tttcccagag	gtgtgtanag	ggaacggggc	ctagaggcat	60
cccanagata	ncttatanca	acagtgtctt	gaccaagagc	tgctgggcac	atttcttgca	120
gaaaagggtg	cgggtcccat	cactctctct	ctcccatagc	catcccagag	gggtgagtag	180
ccatcangcc	ttcgggtggga	gggagtcang	gaaacaacan	accacagagc	anacagacca	240
ntgatgacca	tgggcgggag	cgagcctctt	ccctgnaccg	gggtggcana	nganagccta	300
nctgaggggt	cacactataa	acgttaacga	ccnagatnan	cacctgtctc	aagtgcaccc	360
ttcctacctg	acnaccagng	accnnaact	gcngcctggg	gacagcctg	ggancagcta	420
acnnagcact	cacctgtccc	cccattggcg	tnegentccc	tggtcctgnc	aagggaagct	480
ccctgttgga	attncgggga	naccaaggga	ncctctctct	ccanctgtga	aggaaaaann	540
gatggaattt	tncccttccg	gcnntcccc	tcttcttcta	cacgccccct	nntactctc	600
tccctctntt	ntcctgncnc	acttttnacc	ccnnnatttc	ccttnattga	tcggannctn	660
ganattccac	tnncgcctnc	cntcnatcng	naanacnaaa	nactntctna	cccnggggat	720
gggnncctcg	ntcatcctct	cttttctnct	accnccnntt	ctttgcctct	ccttngatca	
780tccaaccntc	gntggccntn	ccccccnnn	tccttttccc			

820

<210> 27  
 <211> 818  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(818)  
 <223> n = A,T,C or G

<400> 27

tctgggtgat	ggcctcttcc	tcctcagggg	cctctgactg	ctctggggcca	aagaatctct	60
tgtttcttct	ccgagcccca	ggcagcgggt	attcagccct	gcccacacct	attctgatga	120
ctgcggatgc	tgtgacggac	ccaaggggca	aatagggtcc	caggggtccag	ggagggggcgc	180
ctgctgagca	cttccgcccc	tcaccctgcc	cagccctgct	catgagctct	gggctgggtc	240
tccgcctcca	gggttctgct	cttccangca	ngccancaag	tggcgctggg	ccacactggc	300
ttcttctgct	cccttccctg	gctctganc	tctgtcttcc	tgctctgtgc	angcnccttg	360
gatctcagtt	tcctctnctc	anngaactct	gtttctgann	tcttcantta	actntgant	420
tatnaccnan	tggnetgtnc	tgctnnactt	taatgggcn	gaccggctaa	tccttccctc	480
ntcccttcc	anttcnnna	accngcttnc	cntctctctc	ccntancecg	ccngggaanc	540
ctcctttgcc	ctnaccangg	gcnnnnaccg	ccctnnctn	ggggggcnng	gtnnctnctc	600
ctgntnnccc	cnetcnctnt	tnctctgtcc	cnnnnnccgn	nngcannttc	ncngtcccn	660
tnnctcttct	ngntctgnaa	ngntcnctnt	tnnnnnngcn	ngntnnctn	tcctctctc	720
cnnntgnang	tnnttnnnnc	ncngnncccc	nnnnnnnnnn	nggnntnnnn	tcctnctnctc	780
ccnncccc	ngnattaagg	cctccnctct	ccggcctc			818

<210> 28  
 <211> 731  
 <212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(731)

<223> n = A,T,C or G

<400> 28

aggaagggcg	gagggatatt	gtangggatt	gagggatagg	agnataangg	gggaggtgtg	60
tccaacatg	anggtgnngt	tctcttttga	angaggggtg	ngtttttann	ccnggtgggt	120
gattnaacc	cattgtatgg	agnnaaagg	tttnagggat	tttctggctc	ttatcagtat	180
ntanattcct	gtnaatcgga	aaatnatntt	tcnnnnggaa	aatnttgctc	ccatccgnaa	240
attnctcccc	ggtagtgc	nttngggggg	cngccangtt	tcccaggctg	ctanaatcgt	300
actaaagntt	naagtgggan	tncaaataaa	aacctnnac	agagnatccn	tacccgactg	360
tnnnnttncct	tcgcccctntg	actctgcng	agcccaatac	ccnngngnat	gtcncccngn	420
nnngcgcnc	tgaaannnnc	tcngggctnn	gancatcang	gggtttcgca	tcaaaagcnn	480
cgtttencat	naaggcactt	tngcctcatc	caaccnctng	ccctcnncca	tttngccgctc	540
nggttencct	acgctnnntg	cncctnnntn	ganattttnc	ccgcttnggg	naancctect	600
gnaatgggta	gggncttntc	ttttnacnnc	gnggtntact	aatcnnctnc	acgctntnctt	660
tctcnacccc	cccccttttt	caatcccanc	ggcnaatggg	gtctccccnn	cgangggggg	720
nnccccannc	c					731

<210> 29

<211> 822

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(822)

<223> n = A,T,C or G

<400> 29

actagtccag	tgtgggtggaa	ttccattgtg	ttggggncnc	ttctatgant	antnttagat	60
cgctcanacc	tcacancctc	ccnacnangc	ctataangaa	nannaataga	nctgtncnnt	120
atntntacnc	tcatanncct	cnnnaccac	tccctcttaa	ccctactgt	gcctatngcn	180
tnnctantct	ntgcgcctn	cnaaccacn	gtgggcnac	cncnngnat	ctcnatctcc	240
tcnccatntn	gcctananta	ngtncatacc	ctatacctac	nccaatgcta	nnnctaancn	300
tccatnantt	annntaacta	ccactgaant	ngactttcnc	atnanctcct	aatttgaatc	360
tactctgact	cccacngcct	annnattagc	ancntcccc	nacnatntct	caaccaaate	420
ntcaacaacc	tatctanctg	ttcnccaacc	nttnccctcg	atccccnnac	aacccccctc	480
ccaaataccc	nccacctgac	ncctaaccn	caccatcccc	gcaagccnan	ggncatttan	540
ccactggaat	cacnatngga	naaaaaaac	ccnaactctc	tancncnnat	ctccctaana	600
aatnctcctn	naatttactn	ncantnccat	caancccaac	tgaaacnnaa	ccccgttttt	660
tanatccctt	ctttcgaaaa	ccnacccttt	annncccaac	ctttnggggc	ccccnctnc	720
ccnaatgaag	gncncccaat	cnangaaacg	ncntgaaaa	ancnaggcna	anannntccg	780
canatcctat	cccttanttn	ggggnccctt	nccnggggcc	cc		822

<210> 30

<211> 787

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature



&lt;222&gt; (1)...(787)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 30

cgccgcctg	ctctggcaca	tgccctcctga	atggcatcaa	aagtgatgga	ctgcccattg	60
ctagagaaga	ccttctctcc	tactgtcatt	atggagccct	gcagactgag	ggctcccctt	120
gtctgcagga	tttgatgtct	gaagtcgtgg	agtgtggctt	ggagctcctc	atctacatna	180
gctggaagcc	ctggagggcc	tctctcgcca	gcctccccct	tctctccacg	ctctccangg	240
acaccagggg	ctccaggcag	cccattatc	ccagnangac	atgggtgttc	tccacgcgga	300
cccattgggg	ctgnaaggcc	agggtctcct	ttgacaccat	ctctcccgtc	ctgcctggca	360
ggccgtggga	tccactantt	ctanaacggn	cgccaccncg	gtgggagctc	cagcttttgt	420
tcccnttaat	gaagggttaat	tgcncgcttg	gcgtaatcat	nggtcanaac	tntttcctgt	480
gtgaaattgt	ttntccccctc	ncnattccnc	ncnacatacn	aaccgcgaan	cataaagtgt	540
taaagcctgg	gggtngcctn	nngaanaac	tnaactcaat	taattgcgtt	ggctcatggc	600
ccgctttccn	ttcnggaaaa	ctgtctctcc	ctgcnttntt	gaatcgcca	ccccccnggg	660
aaaagcgggt	tgcnttttng	gggntcctt	ccntctcccc	cctcnctaen	ccctnccct	720
cggtcgttnc	nggtngcggg	gaangggnat	nnctccccnc	naagggggng	agnnngntat	780
ccccaaa						787

&lt;210&gt; 31

&lt;211&gt; 799

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(799)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 31

tttttttttt	tttttttggc	gatgctactg	tttaattgca	ggaggtgggg	gtgtgtgtac	60
catgtaccag	ggctattaga	agcaagaagg	aaggagggag	ggcagagcgc	cctgctgagc	120
aacaaaggac	tcctgcagcc	ttctctgtct	gtctcttggc	gcaggcacat	ggggaggcct	180
cccgagggt	gggggccacc	agtccagggg	tgggagcact	acanggggtg	ggagtggggtg	240
gtggctggtn	cnaatggcct	gncacanatc	cctacgatc	ttgacacctg	gatttcacca	300
ggggaccttc	tgttctccca	nggnaacttc	ntnnatctcn	aaagaacaca	actgtttctt	360
cngcanttct	ggctgttcat	ggaaagcaca	ggtgtccnat	ttnggctggg	acttggtaca	420
tatggttccg	gcccacctct	ccentcnaan	aagtaattca	ccccccccc	centctnttg	480
cctgggccct	taantacca	caccggaact	canttantta	ttcatcttng	gntgggcttg	540
ntnatcnccn	cctgaangcg	caaagttgaa	aggccacgcc	gtncnccnctc	cccatagnan	600
nttttntnct	canctaattg	ccccccnggc	aacnatccaa	tcccccccn	tgggggcccc	660
agcccanggc	ccccgnctcg	ggnnnccngn	cncgnantcc	ccaggntctc	ccantcngnc	720
ccnnngcncc	cccgcacgca	gaacanaagg	ntngagccnc	cgcannnnnn	nggtnnnac	780
ctcgcccccc	ccnnccgng					799

&lt;210&gt; 32

&lt;211&gt; 789

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(789)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 32

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
ttttnccnag	ggcagggtta	ttgacaacct	cncgggacac	aancaggctg	gggacaggac	120
ggcaacaggc	tccggcgcg	gcggcggcgg	ccctacctgc	ggtaccaa	ntgcagcctc	180
cgctcccgt	tgatnttct	ctgcagctgc	aggatgccnt	aaaacagggc	ctcgccntn	240
ggtgggcacc	ctgggatttn	aatttccacg	ggcacaatgc	ggtcgcancc	cctcaccacc	300
nattaggaat	agtggtnnta	ccnccnccg	ttggcncact	ccccntggaa	accacttntc	360
gcggctccgg	catctggtct	taaaccttgc	aaacnctggg	gcctctttt	tggttantnt	420
nccngccaca	atcatnactc	agactggcnc	gggctggccc	caaaaaan	ccccaaaacc	480
ggncatgtc	ttnnccgggt	tgctgcnatn	tncatcacct	cccgggcnc	ncaggncaac	540
ccaaaagttc	ttgnggccc	caaaaaanct	ccggggggnc	ccagtttcaa	caaagtcac	600
ccccctggcc	cccaaactct	ccccccgntt	nctgggtttg	ggaaccacg	cctctnnctt	660
tggngggcaa	gntggntccc	ccttcggggc	cccggtgggc	ccnnctctaa	ngaaaacncc	720
ntcctnnnca	ccatcccccc	nngnnacgnc	tancaangna	tccctttttt	tanaaacggg	780
ccccccnccg						789

&lt;210&gt; 33

&lt;211&gt; 793

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (793)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 33

gacagaacat	gttggatggt	ggagcacctt	tctatacgac	ttacaggaca	gcagatgggg	60
aattcatggc	tgttgagca	atanaacccc	agttctacga	gctgctgac	aaaggacttg	120
gactaaagtc	tgatgaactt	cccaatcaga	tgagcatgga	tgattggcca	gaaatgaana	180
agaagtttgc	agatgtattt	gcaaagaaga	cgaaggcaga	gtggtgtcaa	atctttgacg	240
gcacagatgc	ctgtgtgact	ccggttctga	cttttgagga	ggttggtcat	catgatcaca	300
acaangaacg	gggctcgttt	atcaccantg	aggagcagga	cgtgagcccc	cgccctgcac	360
ctctgctgtt	aaacacccca	gccatccctt	ctttcaaaag	ggatccacta	cttctagagc	420
ggncgccacc	gcggtggagc	tccagctttt	gttcccttta	gtgagggtta	attgcgcgct	480
tggcgtaatc	atggtcatan	ctgtttcctg	tgtgaaattg	ttatccgctc	acaattccac	540
acaacatacg	anccggaagc	atnaaatttt	aaagcctggn	ggtngcctaa	tgantgaact	600
nactcacatt	aattggcttt	gcgctcactg	cccgttttcc	agtccggaaa	acctgtcctt	660
gccagctgcc	nttaatgaat	cnggccaccc	ccgggggaaa	aggcngtttg	cttnttgggg	720
cgcncttccc	gctttctcgc	ttcctgaant	ccttcccccc	ggtctttcgg	cttgcggcna	780
acggtatcna	cct					793

&lt;210&gt; 34

&lt;211&gt; 756

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (756)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 34

gccgcgaccg	gcatgtacga	gcaactcaag	ggcgagtggga	accgtaaaaag	ccccaatctt	60
ancaagtgcg	gggaanagct	gggtcgactc	aagctagttc	ttctggagct	caacttcttg	120

ccaaccacag	ggaccaagct	gaccaaacag	cagctaattc	tggcccgtga	catactggag	180
atcgggggcc	aatggagcat	cctacgcaan	gacatccct	ccttcgagcg	ctacatggcc	240
cagctcaa	gctactactt	tgattacaan	gagcagctcc	ccgagtcagc	ctatatgcac	300
cagctcttgg	gcctcaacct	cctcttcctg	ctgtcccaga	accgggtggc	tgantnccac	360
acgganttgg	ancggctgcc	tgcccaanga	catacanacc	aatgtctaca	tcnaccacca	420
gtgtcctgga	gcaatactga	tgganggcag	ctaccncaaa	gtnttcctgg	ccnagggtaa	480
catccccgc	cgagagctac	accttcttca	ttgacatcct	gctcgacact	atcaggggatg	540
aaaatcgcn	ggttgctcca	gaaaggctnc	aanaanattc	tttctnctga	aggcccccg	600
atnctnctagt	nctagaatcg	gcccgcctac	gcggtgganc	ctccaacctt	tcgttncct	660
ttactgaggg	ttnattgccg	cccttggcgt	tatcatggtc	acnccngttn	cctgtgttga	720
aattnttaac	ccccacaa	tccacgccna	cattng			756

&lt;210&gt; 35

&lt;211&gt; 834

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(834)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 35

ggggatctct	anactnacct	gnatgcatgg	ttgtcgggtg	ggtcgctgtc	gatgaanatg	60
aacaggatct	tgcccttgaa	gctctcggct	gctgtnttta	agttgctcag	tctgccgtca	120
tagtcagaca	cncctcttggg	caaaaaacan	caggatntga	gtcttgattt	cacctccaat	180
aatcttcngg	gctgtctgct	cggatgaactc	gatgaanang	ggcagctggg	tgtgtntgat	240
aaantccanc	angttctcct	tggtgacctc	cccttcaaa	ttgttccggc	cttcatcaaa	300
cttctnnaan	angannance	canctttgtc	gagctggnat	ttgganaaca	cgtcaccgtt	360
ggaaactgat	cccaaattgg	atgtcatcca	tcgctctgct	tgccctgcaa	aaacttgctt	420
ggcncaaate	cgactcccn	tccttgaaag	aagccnatca	cacccccctc	cctggactcc	480
nncaangact	ctnccgctnc	cccntccnng	cagggttggg	ggcannccgg	gcccntgcgc	540
ttcttcagcc	agttcacnat	nttcatcagc	ccctctgcca	gctgtntat	tccttggggg	600
ggaanccgct	tctcccttcc	tgaannaact	ttgaccgtng	gaatagccgc	gcntcnctnt	660
acntnctggg	ccgggttcaa	antccctccn	ttgncntcn	cctcggggcca	ttctggattt	720
nccnaacttt	ttcttccccc	cncccnccgg	ngtttggntt	tttcatnggg	ccccaaactct	780
gctnttggcc	antcccttgg	gggcntntan	cncccnctnt	ggcctcntng	ggcc	834

&lt;210&gt; 36

&lt;211&gt; 814

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(814)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 36

cggnccgcttt	ccngccgcgc	ccggtttcca	tgacnaaggc	tccttcang	ttaaatacnn	60
cctagnaaac	attaatgggt	tgctctacta	atacatcata	cnaaccagta	agcctgcccc	120
naacgccaac	tcaggccatt	cctaccaaag	gaagaaaggc	tggtctctcc	acccccgtga	180
ggaaaggcct	gccttgtaag	acaccacaat	ncggctgaat	ctnaagtctt	gtgttttact	240
aatggaaaaa	aaaaataaac	aanaggtttt	gttctcatgg	ctgcccaccg	cagcctggca	300
ctaaaaacanc	ccagcgctca	cttctgcttg	ganaaatatt	ctttgctctt	ttggacatca	360

ggcttgatgg	tatcaactgcc	acntttccac	ccagctgggc	ncccttcccc	catntttgtc	420
antganctgg	aaggcctgaa	ncttagtctc	caaaagtctc	ngcccacaag	accggccacc	480
aggggagntc	ntttncagtg	gatctgccaa	anantaccn	tatcatcnnt	gaataaaaaag	540
gcccctgaac	ganatgcttc	cancancctt	taagacccat	aatcctngaa	ccatgggtgcc	600
cttcgggtct	gacccnaaag	gaatgttctt	gggtcccant	ccctcctttg	ttntttacgt	660
tgtnttggac	ccntgctngn	atnaccnaan	tganatcccc	ngaagcacc	tnccctggc	720
atttganttt	cntaaattct	ctgccctacn	nctgaaagca	cnattccctn	ggcncnnaan	780
gngaactca	agaaggtctn	ngaaaaacca	cncn			814

&lt;210&gt; 37

&lt;211&gt; 760

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(760)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 37

gcattgctgct	cttcctcaaa	gttggtcttg	ttgccataac	aaccaccata	ggtaaagcgg	60
gcgcagtgtt	cgctgaaggg	gtttagtagt	cagcgcgagg	tgctctcctt	gcagagtcct	120
gtgtctggca	ggccacgca	atgccctttg	tactggggga	aatggatgcg	ctggagctcg	180
tcnaanccac	tcgtgtattt	ttcacangca	gcctcctccg	aagcctccgg	gcagttgggg	240
gtgtcggtac	actccactaa	actgtcgatn	cancagccca	ttgctgcagc	ggaactgggt	300
gggctgacag	gtgccagaac	acactggatn	ggcctttcca	tggaagggcc	tgggggaaat	360
cncctnancc	caaactgcct	ctcaaaggcc	accttgcaac	ccccgacagg	ctagaaatgc	420
actcttcttc	ccaaaggtag	ttgttcttgt	tgcccaagca	ncctccanca	aaccaaaanc	480
ttgcaaaatc	tgctccgtgg	gggtcatnnn	taccanggtt	ggggaaanaa	acccggcngn	540
ganccnctt	gtttgaatgc	naaggnaata	atcctcctgt	cttgcttggg	tggaanagca	600
caattgaact	gttaacnttg	ggcnggttc	cncnnggtg	gtctgaaact	aatcacgctc	660
actggaaaaa	ggtangtgcc	ttccttgaat	ccccaaantt	ccccngntt	tggtntttt	720
ctcctctncc	ctaaaaatcg	tnttcccccc	ccntangggc			760

&lt;210&gt; 38

&lt;211&gt; 724

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(724)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 38

tttttttttt	tttttttttt	tttttttttt	tttttaaaaa	ccccctccat	tgaatgaaaa	60
cttcnnaaat	tgtccaaccc	cctcnnccaa	atnnccattt	ccgggggggg	gttccaaacc	120
caaattaatt	ttgganttta	aattaaatnt	tnattngggg	anaaanccaa	atgtnaagaa	180
aatttaaccc	attatnaact	taaatncctn	gaaacccntg	gnttccaaaa	atttttaacc	240
cttaaatccc	tccgaaattg	ntaanggaaa	accaaattcn	cctaaggctn	tttgaaggtt	300
ngatttaaac	ccccttnant	tnttttnacc	cnnngctnaa	ntatttngnt	tccgggtgtt	360
tcctnttaan	cntnggtaac	tcccgntaat	gaannncctt	aanccaatta	aaccgaattt	420
tttttgaatt	ggaaattccn	ngggaattna	ccgggggttt	tcccnttttg	gggccatncc	480
cccnctttcg	gggtttgggn	ntaggttgaa	tttttnnang	ncccaaaaaa	ncccccaana	540
aaaaaactcc	caagnnttaa	ttngaantnc	ccccctccca	ggccttttgg	gaaaggnggg	600

tttntggggg ccngggantt cnttcccccn ttncnccccc cccccnggt aaanggttat	660
ngnntttggt ttttgggccc cttnanggac cttccggatn gaaattaaat ccccgggneg	720
gccg	724

&lt;210&gt; 39

&lt;211&gt; 751

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(751)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 39

tttttttttt tttttctttg ctcacattta atttttatatt tgattttttt taatgctgca	60
caacacaata tttatttcat ttgtttcttt tatttcattt tatttgtttg ctgctgctgt	120
tttatttatt tttactgaaa gtgagaggga actttttgtg ccttttttcc tttttctgta	180
ggccgcctta agctttctaa atttggaaca tctaagcaag ctgaanggaa aaggggggtt	240
cgcaaaatca ctccgggggaa nggaaagggt gctttgttaa tcatgcccta tgggtgggtga	300
ttaactgctt gtacaattac ntttcacttt taattaattg tgctnaangc ttaattana	360
cttggggggt cctccccan accaaccnccn ctgacaaaaa gtgccngccc tcaaatnatg	420
tcccggcnnt cnttgaaaca cacngcngaa ngttctcatt ntccccncnc caggtnaaaa	480
tgaagggtta ccatntttta cncacacctc acntggcnnn gcctgaatcc tcnaaaanncn	540
ccttcaannc aattnctnng ccccggtcnc gcntnngtc cnccegggct ccgggaantn	600
cacccccnga annnntnnc naacnaaatt ccgaaaatat tcccnntcnc tcaattcccc	660
cnnagactnt cctcnncnnc cncaattttc tttnttcac gaacncgnnc cnaaaaatgn	720
nnnnncctc cncnngtcn naatcnccan c	751

&lt;210&gt; 40

&lt;211&gt; 753

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(753)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 40

gtggtatttt ctgtaagatc aggtgttccct ccctcgtagg tttagaggaa acaccctcat	60
agatgaaaac cccccgaga cagcagcact gcaactgcca agcagccggg gtaggagggg	120
cgccctatgc acagctgggc ccttgagaca gcagggttc gatgtcaggc tcgatgtcaa	180
tggctctggaa gcggcggtg tacctgcgta ggggcacacc gtcagggcc accaggaact	240
tctcaaagt ccaggcaacn tcgttgcgac acaccggaga ccaggatn agcttggggt	300
cggtcataan cgcggtggcg tcgtcgctgg gagctggcag ggcctccgc aggaaggcna	360
ataaaagggt cgccccgca ccgttcant cgcaacttctc naanaccatg angttgggct	420
cnaaccacc accannccgg acttccttga nggaattccc aaatctcttc gntcttgggc	480
ttctnctgat gccctantg gtgcccngn atgccaanca nccccancc ccggggctct	540
aaanccaccn cctcctntt tcatctgggt tntntcccc ggacctgggt tcctctcaag	600
ggancccata tctnaccan tactcacnt nccccccnt gnnaccanc cttctanngn	660
ttccncccc ncctctggcc cntcaaan gcttnacna cctgggtctg ccttcccccc	720
tnccctatct gnacccnncn tttgtctcan tnt	753

&lt;210&gt; 41

&lt;211&gt; 341

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 41

actatatcca tcacaacaga catgcttcat cccatagact tcttgacata gcttcaaagt	60
agtgaaccca tccttgattt atatacatat atgttctcag tattttggga gcctttccac	120
ttctttaaac cttgttcatt atgaacactg aaaataggaa tttgtgaaga gttaaaaagt	180
tatagcttgt ttacgtagta agtttttgaa gtctacattc aatccagaca cttagttgag	240
tgttaaactg tgatttttaa aaaatatcat ttgagaatat tctttcagag gtattttcat	300
ttttactttt tgattaattg tgttttatat attagggtag t	341

&lt;210&gt; 42

&lt;211&gt; 101

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 42

acttactgaa tttagtcttg tgctcttctt tatttagtgt tgtatcataa atactttgat	60
gtttcaaaca ttctaaataa ataattttca gtggcttcat a	101

&lt;210&gt; 43

&lt;211&gt; 305

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 43

acatctttgt tacagtctaa gatgtgttct taaatcacca ttccttcttg gtctcaccc	60
tccaggggtg tctcacactg taattagagc tattgaggag tctttacagc aaattaagat	120
tcagatgctt tgctaagtct agagttctag agttatgttt cagaaagtct aagaaaccca	180
cctcttgaga ggtcagtaaa gaggacttaa tatttcatat ctacaaaatg accacaggat	240
tgatacaga acgagagtta tcttgataa ctcagagctg agtacctgcc cgggggccgc	300
tcgaa	305

&lt;210&gt; 44

&lt;211&gt; 852

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (852)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 44

acataaatat cagagaaaag tagtctttga aatatttacg tccaggagtt ctttgtttct	60
gattatttgg tgtgtgtttt ggtttggtgc caaagtattg gcagcttcag ttttcatttt	120
ctctccatcc tcgggcattc ttcccaaatt tatataccag tcttcgtcca tccacacgct	180
ccagaatttc tctttttagt taatatctca tagctcggct gagcttttca taggtcatgc	240
tgctgttggt cttcttttta ccccatagct gagccactgc ctctgatttc aagaacctga	300
agacgccctc agatcggctt tcccatttta ttaatcctgg gttcttgtct gggttcaaga	360
ggatgtcgcg gatgaattcc cataagttag tccctctcgg gttgtgcttt ttgggtgtggc	420
acttggcagg ggggtcttgc tcttttttca tatcaggtga ctctgcaaca ggaaggtgac	480
tggtggttgt catggagatc tgagccgggc agaaagtttt gctgtccaac aaatctactg	540
tgctaccata gttggtgtca tataaatagt tctngtcttt ccagggtgttc atgatggaag	600

gctcagtttg	ttcagtcttg	acaatgacat	tgtgtgtgga	ctggaacagg	tcactactgc	660
actggccggt	ccacttcaga	tgctgcaagt	tgctgtagag	gagntgcccc	gccgtccctg	720
ccgcccgggt	gaactcctgc	aaatcatgc	tgcaaagggtg	ctcgccgttg	atgtcgaact	780
cntggaaagg	gatacaattg	gcatccagct	ggttggtgtc	caggagggtga	tggagccact	840
cccacacctg	gt					852

&lt;210&gt; 45

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 45

acaacagacc	cttgctcgct	aacgacctca	tgctcatcaa	gttggacgaa	tccgtgtccg	60
agtctgacac	catccggagc	atcagcattg	cttcgcagtg	ccctaccgcg	gggaactctt	120
gcctcgtttc	tggctggggg	ctgctggcga	acggcagaat	gcctaccgtg	ctgcagtgcg	180
tgaacgtgtc	ggtggtgtct	gaggagggtct	gcagtaagct	ctatgacccg	ctgt	234

&lt;210&gt; 46

&lt;211&gt; 590

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (590)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 46

actttttatt	taaatgttta	taaggcagat	ctatgagaat	gatagaaaac	atgggtgtgta	60
atttgatagc	aatatttttg	agattacaga	gttttagtaa	ttaccaatta	cacagttaaa	120
aagaagataa	tatattccaa	gcanatacaa	aatatcta	gaaagatcaa	ggcaggaaaa	180
tgantataac	taattgacaa	tggaaaatca	attttaatgt	gaattgcaca	ttatccttta	240
aaagctttca	aaanaanaa	ttattgcagt	ctanttaatt	caaacagtgt	taaatgggtat	300
caggataaan	aactgaagg	canaaagaat	taattttcac	ttcatgtaac	ncacccanat	360
ttacaatggc	ttaaattgcan	ggaaaaagca	gtggaagtag	ggaagtantc	aagggtcttct	420
tggctctctaa	tctgccttac	tctttgggtg	tggctttgat	cctctggaga	cagctgccag	480
ggctcctgtt	atatccacaa	tcccagcagc	aagatgaagg	gatgaaaaag	gacacatgct	540
gccttccttt	gaggagactt	catctcactg	gccaacactc	agtcacatgt		590

&lt;210&gt; 47

&lt;211&gt; 774

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (774)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 47

acaagggggc	ataatgaagg	agtggggana	gattttaaag	aaggaaaaaa	aacgaggccc	60
tgaacagaat	tttctgnac	aacggggcct	caaaataatt	ttcttgggga	ggttcaagac	120
gcttcactgc	ttgaaactta	aatggatgtg	ggacanaatt	ttctgtaatg	accctgaggg	180
cattacagac	gggactctgg	gaggaaggat	aaacagaaag	gggacaaagg	ctaatacccaa	240
aacatcaaag	aaaggaagg	ggcgtcatac	ctcccagcct	acacagttct	ccagggtctct	300

```

cctcatccct ggaggacgac agtggaggaa caactgacca tgtccccagg ctctgtgtg 360
ctggctcctg gtcttcagcc cccagctctg gaagcccacc ctctgctgat cctgcgtggc 420
ccacactcct tgaacacaca tccccagggt atattcctgg acatggctga acctcctatt 480
cctacttccg agatgccttg ctccctgcag cctgtcaaaa tcccaactcac cctccaaacc 540
acggcatggg aagcctttct gacttgcttg attactccag catcttggaa caatccctga 600
ttccccactc cttagaggca agatagggtg gttaagagta gggctggacc acttgagacc 660
aggctgctgg cttcaaattn tggctcattt acgagctatg ggaccttggg caagtnatct 720
tcacttctat gggcntcatt ttgttctacc tgcaaaatgg gggataataa tagt 774

```

```

<210> 48
<211> 124
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(124)
<223> n = A,T,C or G

```

```

<400> 48
canaaattga aattttataa aaaggcattt ttctcttata tccataaaat gatataattt 60
ttgcaantat anaaatgtgt cataaattat aatgttcctt aattacagct caacgcaact 120
tggt 124

```

```

<210> 49
<211> 147
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(147)
<223> n = A,T,C or G

```

```

<400> 49
gccgatgcta ctattttatt gcaggagggt ggggtgtttt tattattctc tcaacagctt 60
tgtggctaca ggtgggtgtc gactgcatna aaaanttttt tacgggtgat tgcaaaaatt 120
ttagggcacc catatcccaa gcantgt 147

```

```

<210> 50
<211> 107
<212> DNA
<213> Homo sapien

```

```

<400> 50
acattaaatt aataaaagga ctgttggggg tctgctaaaa cacatggctt gatataattg 60
atggtttgag gttaggagga gttaggcata tgttttggga gaggggt 107

```

```

<210> 51
<211> 204
<212> DNA
<213> Homo sapien

```

```

<400> 51
gtcctaggaa gtctagggga cacacgactc tggggtcacg gggccgacac acttgcacgg 60

```



cggaaggaa aggcagagaa gtgacaccgt caggggggaaa tgacagaaag gaaaatcaag 120  
gccttgcaag gtcagaaagg ggactcaggg cttccaccac agccctgccc cacttggcc 180  
cctccctttt gggaccagca atgt 204

<210> 52

<211> 491

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(491)

<223> n = A,T,C or G

<400> 52

acaaagataa catttatctt ataacaaaaa tttgatagtt ttaaagggtta gtattgtgta 60  
gggtattttt caaaagacta aagagataac tcaggtaaaa agttagaaat gtataaaaaca 120  
ccatcagaca gggtttttaa aaacaacata ttacaaaatt agacaatcat ccttataaaaa 180  
aaaacttctt gtatcaattt cttttgttca aaatgactga cttaantatt tttaaatatt 240  
tcanaaacac ttcctcaaaa attttcaana tggtagcttt canatgtnc ctcagtccca 300  
atgttgctca gataaataaa tctcgtgaga acttaccacc caccacaagc tttctggggc 360  
atgcaacagt gtcttttctt tnccttttct tttttttttt ttacaggcac agaaactcat 420  
caattttatt tggataacaa agggctctca aattatattg aaaaataaat ccaagttaat 480  
atcactcttg t 491

<210> 53

<211> 484

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(484)

<223> n = A,T,C or G

<400> 53

acataattta gcagggctaa ttaccataag atgctattta ttaanaggtn tatgatctga 60  
gtattaacag ttgctgaagt ttggtatttt tatgcagcat tttctttttg ctttgataac 120  
actacagaac ccttaaggac actgaaaatt agtaagtaaa gttcagaaac attagctgct 180  
caatcaaact tctacataac actatagtaa ttaaaacggt aaaaaaaagt gttgaaatct 240  
gcactagtat anaccgctcc tgtcaggata anactgcttt ggaacagaaa gggaaaaanc 300  
agctttgant ttctttgtgc tgatangagg aaaggctgaa ttaccttggt gcctctccct 360  
aatgattggc aggtcnggta aatnccaaaa catattccaa ctcaacactt cttttccnng 420  
tancttgant ctgtgtattc caggancagg cggatggaat gggccagccc ncggatgttc 480  
cant 484

<210> 54

<211> 151

<212> DNA

<213> Homo sapien

<400> 54

actaaacctc gtgcttggtga actccataca gaaaacgggt ccatccctga acacggctgg 60  
ccactgggta tactgctgac aaccgcaaca aaaaaaacac aaatccctgg cactggctag 120  
tctatgtcct ctcaagtgcc tttttgtttg t 151

<210> 55  
<211> 91  
<212> DNA  
<213> Homo sapien

<400> 55  
acctggcttg tctccgggtg gttcccggcg cccccacgg tccccagaac ggacactttc 60  
gccctccagt ggatactcga gccaaagtgg t 91

<210> 56  
<211> 133  
<212> DNA  
<213> Homo sapien

<400> 56  
ggcggatgtg cgttgggttat atacaaatat gtcattttat gtaagggact tgagtatact 60  
tggttttttg gtatctgtgg gttgggggga cggtccagga accaatacc catggatacc 120  
aagggacaac tgt 133

<210> 57  
<211> 147  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)... (147)  
<223> n = A,T,C or G

<400> 57  
actctggaga acctgagccg ctgctccgcc tctgggatga ggtgatgcan gcngtggcgc 60  
gactgggagc tgagcccttc cctttgcgcc tgcctcagag gattgttgcc gacntgcana 120  
tctcantggg ctggatncat gcagggt 147

<210> 58  
<211> 198  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)... (198)  
<223> n = A,T,C or G

<400> 58  
acagggatat aggtttnaag ttattgtnat tgtaaaatac attgaatttt ctgtatactc 60  
tgattacata catttatcct ttaaaaaaga tgtaaatctt aatttttatg ccatctatta 120  
attaccaat gagttacctt gtaaatgaga agtcatgata gcactgaatt ttaactagtt 180  
ttgacttcta agtttggg 198

<210> 59  
<211> 330  
<212> DNA  
<213> Homo sapien

&lt;400&gt; 59

acaacaaatg gggtgtgagg aagtcttatac agcaaaaactg gtgatggcta ctgaaaagat	60
ccattgaaaa ttatcattaa tgatttttaa tgacaagtta tcaaaaactc actcaatttt	120
cacctgtgct agcttgctaa aatgggagtt aactctagag caaatatagt atcttctgaa	180
tacagtcaat aaatgacaaa gccagggcct acaggtgggt tccagacttt ccagaccag	240
cagaaggaat ctattttatc acatggatct ccgtctgtgc tcaaaaatacc taatgatatt	300
tttcgtcttt attggacttc tttgaagagt	330

&lt;210&gt; 60

&lt;211&gt; 175

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 60

accgtgggtg cttctacat tcttgacggc tcttcacca acatctgggt ctacttcggc	60
gtcgtgggtc cttctctct cactctcatc cagctgggtc tgctcatcga ctttgcgac	120
tcttgaacc agcgggtggc gggcaaggcc gaggagtgcg attcccgtgc ctggt	175

&lt;210&gt; 61

&lt;211&gt; 154

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 61

acccacttt tctcctgtg agcagctctgg acttctcact gctacatgat gaggggtgagt	60
gggtgttgct cttcaacagt atcctccct tcccgatct gctgagccgg acagcagtcg	120
tggactgcac agccccgggg ctccacattg ctgt	154

&lt;210&gt; 62

&lt;211&gt; 30

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 62

cgctcgagcc ctatagttag tcgtattaga	30
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&lt;210&gt; 63

&lt;211&gt; 89

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 63

acaagtcatt tcagcacctc ttgctcttca aaactgacca tcttttatat ttaatgcttc	60
ctgtatgaat aaaaatgggt atgtcaagt	89

&lt;210&gt; 64

&lt;211&gt; 97

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 64

accggagtaa ctgagtcggg acgctgaatc tgaatccacc aataaataaa gggtctgcag	60
aatcagtgc tccaggattg gtccttgat ctggggt	97

<210> 65  
 <211> 377  
 <212> DNA  
 <213> Homo sapien  
  
 <220>  
 <221> misc\_feature  
 <222> (1)...(377)  
 <223> n = A,T,C or G

<400> 65  
 acaacaanaa ntcccttctt taggccactg atggaaacct ggaacccccct tttgatggca 60  
 gcatggcgctc ctaggccttg acacagcggc tgggggtttgg gctntcccaa accgcacacc 120  
 ccaaccctgg tctaccaca nttctggcta tgggctgtct ctgccactga acatcagggt 180  
 tcggtcataa natgaaatcc caanggggac agagggtcagt agaggaagct caatgagaaa 240  
 ggtgctgttt gctcagccag aaaacagctg cctggcattc gccgctgaac tatgaacccg 300  
 tgggggtgaa ctaccccccag gaggaatcat gcctgggcga tgcaanggtg ccaacaggag 360  
 gggcgggagg agcatgt 377

<210> 66  
 <211> 305  
 <212> DNA  
 <213> Homo sapien

<400> 66  
 acgcctttcc ctcagaattc agggaagaga ctgtgcctg ccttctctcg ttgttgctg 60  
 agaaccctgt tggcccttcc caccatctcc accctcgctc catctttgaa ctcaaacacg 120  
 aggaactaac tgcaccctgg tctctctccc agtccccagt tcaccctcca tccctcacct 180  
 tctctcactc taagggatat caacactgcc cagcacaggg gccctgaatt tatgtggttt 240  
 ttatatattt tttaataaga tgcactttat gtcatttttt aataaagtct gaagaattac 300  
 tgttt 305

<210> 67  
 <211> 385  
 <212> DNA  
 <213> Homo sapien

<400> 67  
 actacacaca ctccacttgc ctttgtgaga cactttgtcc cagcacttta ggaatgctga 60  
 ggtcggacca gccacatctc atgtgcaaga ttgccagca gacatcaggt ctgagagttc 120  
 ccctttttaa aaaggggact tgcttaaaaa agaagtctag ccacgattgt gttagagcagc 180  
 tgtgctgtgc tggagattca cttttgagag agttctctc tgagacctga tctttagagg 240  
 ctgggcagtc ttgcacatga gatggggctg gtctgatctc agcactcctt agtctgcttg 300  
 cctctcccag ggccccagcc tggccacacc tgcttacagg gcactctcag atgccatac 360  
 catagtttct gtgctagtgg accgt 385

<210> 68  
 <211> 73  
 <212> DNA  
 <213> Homo sapien

<400> 68  
 acttaaccag atatattttt accccagatg gggatattct ttgtaaaaaa tgaaaataaa 60  
 gtttttttaa tgg 73

<210> 69  
 <211> 536  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(536)  
 <223> n = A,T,C or G

<400> 69  
 actagtccag tgtggtggaa ttccattgtg ttgggggctc tcaccctcct ctctgcagc 60  
 tccagctttg tgctctgcct ctgaggagac catggcccag catctgagta ccctgctgct 120  
 cctgctggcc accctagctg tggccctggc ctggagcccc aaggaggagg ataggataat 180  
 cccgggtggc atctataacg cagacctcaa tgatgagtgg gtacagcgtg cccttcactt 240  
 cgccatcagc gagtataaca aggccaccaa agatgactac tacagacgtc cgctgcgggt 300  
 actaagagcc aggaacaga ccgttggggg ggtgaattac ttcttcgacg tagagggtgg 360  
 ccgaaccata tgtaccaagt ccagcccaa cttggacacc tgtgccttcc atgaacagcc 420  
 agaactgcag aagaacagt tgtgctcttt cgagatctac gaagtccct ggggagaaca 480  
 gaangtcctt gggtgaaatc caggtgtcaa gaaatcctan ggatctgttg ccaggc 536

<210> 70  
 <211> 477  
 <212> DNA  
 <213> Homo sapien

<400> 70  
 atgacccta acaggggccc tctcagccct cctaattgacc tccggcctag ccattgtgatt 60  
 tcacttcac tcataacgc tcctcactact aggccacta accaacacac taaccatata 120  
 ccaatgatgg cgcgatgtaa cagagaaaag cacataccaa ggccaccaca caccacctgt 180  
 ccaaaaaggc cttcgatacg ggataatcct atttattacc tcagaagttt ttttcttcgc 240  
 agggattttt ctgagccttt taccactcca gcctagcccc taccceccaa ctaggaggggc 300  
 actggcccc aacaggcatc accccgctaa atcccctaga agtcccactc ctaaacacat 360  
 ccgtattact cgcacagga gtatcaatca cctgagctca ccatagtcta atagaaaaca 420  
 accgaaacca aattattcaa agcactgctt attacaattt tactgggtct ctatttt 477

<210> 71  
 <211> 533  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(533)  
 <223> n = A,T,C or G

<400> 71  
 agagctatag gtacagtgtg atctcagctt tgcaaacaca ttttctacat agatagtact 60  
 aggtattaat agatatgtaa agaaagaaat cacaccatta ataatggtaa gattgggtta 120  
 tgtgatttta gtggtatttt tggcaccctt atatatgttt tccaaacttt cagcagtgat 180  
 attatttcca taacttaaaa agtgagtttg aaaaagaaaa tctccagcaa gcattctcatt 240  
 taaataaagg tttgtcatct ttaaaaatac agcaatatgt gactttttta aaaagctgtc 300  
 aaatagggtg gaccctacta ataattatta gaaatacatt taaaaacatc gagtacctca 360  
 agtcagtttg ccttgaaaaa tatcaaatat aactcttaga gaaatgtaca taaaagaatg 420  
 cttcgtaatt ttggagtang aggttccttc ctcaattttg tattttttaa aagtacatgg 480  
 taaaaaaaaa aattcacaaac agtatataag gctgtaaaat gaagaattct gcc 533

<210> 72  
 <211> 511  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(511)  
 <223> n = A,T,C or G

<400> 72  
 tattacggaa aaacacacca cataattcaa ctancaaaga anactgcttc agggcgtgta 60  
 aaatgaaagg cttccaggca gttatctgat taaagaacac taaaagaggg acaaggctaa 120  
 aagccgcagg atgtctacac tatancaggc gctatttggg ttggctggag gagctgtgga 180  
 aaacatggan agattgggtgc tgganatcgc cgtggctatt ctcattggtt attacanagt 240  
 gaggttctct gtgtgcccac tggtttgaaa accgttctnc aataatgata gaatagtaca 300  
 cacatgagaa ctgaaatggc ccaaacccag aaagaaagcc caactagatc ctcagaanac 360  
 gcttctaggg acaataaccg atgaagaaaa gatggcctcc ttgtgcccc gtctgttatg 420  
 atttctctcc attgcagcna naaacccgtt cttctaagca aacncagggt atgatggcna 480  
 aaatacaccc cctcttgaag naccnggagg a 511

<210> 73  
 <211> 499  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(499)  
 <223> n = A,T,C or G

<400> 73  
 cagtgccagc actggtgcca gtaccagtac caataacagt gccagtgccg gtgccagcac 60  
 cagtgggtggc ttcagtgtct gtgccagcct gaccgccact ctcacatttg ggtctctcgc 120  
 tggccttggg ggaagtgggt ccagcaccag tggcagctct ggtgcctgtg gtttctccta 180  
 caagtgaagt tttagatatt gttaatcctg ccagctcttc tcttcaagcc aggggtgcac 240  
 ctcagaaacc tactcaacac agcactctag gcagccacta tcaatcaatt gaagttgaca 300  
 ctctgcatta aatctatttg ccatttctga aaaaaaaagg cggccgctcg 360  
 antctagagg gcccggttaa acccgctgat cagcctcgac tgtgccttct anttgccagc 420  
 catctgttgt ttgccccctc cccgntgcct tccttgacct tggaaagtgc cactcccact 480  
 gtcctttcct aantaaat 499

<210> 74  
 <211> 537  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(537)  
 <223> n = A,T,C or G

<400> 74  
 tttcatagga gaacacactg aggagatact tgaagaattt ggattcagcc gcgaagagat 60

ttatcagctt	aactcagata	aaatcattga	aagtaataag	gtaaaagcta	gtctctaact	120
tccaggccca	cggctcaagt	gaatttgaat	actgcattta	cagtgtagag	taacacataa	180
cattgtatgc	atggaaacat	ggaggaacag	tattacagtg	tcctaccact	ctaatcaaga	240
aaagaattac	agactctgat	tctacagtga	tgattgaatt	ctaaaaatgg	taatcattag	300
ggcttttgat	ttataanact	ttgggtactt	atactaaatt	atggtagtta	tactgccttc	360
cagtttgctt	gatataattt	ttgatattaa	gattcttgac	ttatattttg	aatgggttct	420
actgaaaaan	gaatgatata	ttcttgaaga	catcgatata	catttattta	cactcttgat	480
tctacaatgt	agaaaatgaa	ggaaatgccc	caaattgtat	gggtataaaa	gtcccgct	537

&lt;210&gt; 75

&lt;211&gt; 467

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(467)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 75

caaanacaat	tgttcaaaag	atgcaaata	tacactactg	ctgcagctca	caaacacctc	60
tgcatattac	acgtacctcc	tcctgctcct	caagtagtgt	ggctctat	gccatcatca	120
cctgctgtct	gcttagaaga	acggctttct	gctgcaangg	agagaaatca	taacagacgg	180
tggcacaagg	aggccatctt	ttcctcatcg	gttattgtcc	ctagaagcgt	cttctgagga	240
tctagttggg	ctttctttct	gggtttgggc	catttcantt	ctcatgtgtg	tactattcta	300
tcattattgt	ataacgggtt	tcaaaccngt	gggcacncag	agaacctcac	tctgtaataa	360
caatgaggaa	tagccacggg	gatctccagc	accaaactct	tccatgttnt	tccagagctc	420
ctccagccaa	cccaaatagc	cgctgctatn	gtgtagaaca	tcctctgn		467

&lt;210&gt; 76

&lt;211&gt; 400

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(400)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 76

aagctgacag	cattcggggc	gagatgtctc	gctccgtggc	cttagctgtg	ctcgcgctac	60
tctctctttc	tggcctggag	gctatccagc	gtactccaaa	gattcagggt	tactcacgtc	120
atccagcaga	gaatggaaa	tcaaatttcc	tgaattgcta	tgtgtctggg	tttcatccat	180
ccgacattga	agttgactta	ctgaagaatg	gagagagaat	tgaaaaagt	gagcattcag	240
acttgctttt	cagcaaggac	tggtctttct	atctcttgta	ctacactgaa	ttcaccctca	300
ctgaaaaaga	tgagtatgcc	tgccgtgtga	accatgtgac	ttgttcacag	cccaagatng	360
ttnagtggga	tcganacatg	taagcagcan	catggggagg			400

&lt;210&gt; 77

&lt;211&gt; 248

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 77

ctggagtgcc	ttggtgtttc	aagccccctg	aggaagcaga	atgcaccttc	tgaggcacct	60
------------	------------	------------	------------	------------	------------	----

ccagctgccc	cggcggggga	tgcgaggctc	ggagcaccct	tgcccggtg	tgattgctgc	120
caggcactgt	tcattctcagc	ttttctgtcc	ctttgctccc	ggcaagcgct	tctgctgaaa	180
gttcatatct	ggagcctgat	gtcttaacga	ataaaggctc	catgctccac	ccgaaaaaaa	240
aaaaaaaa						248

&lt;210&gt; 78

&lt;211&gt; 201

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 78

actagtccag	tgtggtggaa	ttccattgtg	ttggggccaa	cacaatggct	acctttaaca	60
tcacccagac	cccgccctgc	ccgtgcccc	cgctgctgct	aacgacagta	tgatgcttac	120
tctgtacttc	ggaaactatt	tttatgtaat	taatgtatgc	tttcttgttt	ataaatgcct	180
gatttaaaaa	aaaaaaaaaa	a				201

&lt;210&gt; 79

&lt;211&gt; 552

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(552)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 79

tccttttgtt	aggtttttga	gacaacccta	gacctaaact	gtgtcacaga	cttctgaatg	60
tttaggcagt	gctagtaatt	tcctcgtaat	gattctgtta	ttactttcct	attctttatt	120
cctctttctt	ctgaagatta	atgaagtga	aaattgaggt	ggataaatac	aaaaaggtag	180
tgtgatagta	taagtatcta	agtgcagatg	aaagtgtgtt	atatatatcc	attcaaaatt	240
atgcaagtta	gtaattactc	agggttaact	aaattacttt	aatatgctgt	tgaacctact	300
ctgttccttg	gctagaaaaa	attataaaca	ggactttgtt	agtttgggaa	gccaaattga	360
taatattcta	tgttctaaaa	gttgggctat	acataaanta	tnaagaaata	tggaatttta	420
ttcccaggaa	tatgggggtt	atztatgaat	antacccggg	anagaagttt	tgantnaaac	480
cngttttggt	taatacggtta	atatgtcctn	aatnaacaag	gcntgactta	tttccaaaaa	540
aaaaaaaaaa	aa					552

&lt;210&gt; 80

&lt;211&gt; 476

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(476)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 80

acagggattt	gagatgctaa	ggccccagag	atcgtttgat	ccaaccctct	tattttcaga	60
ggggaaaaatg	gggcctagaa	gttacagagc	atctagctgg	tgcgctggca	cccctggcct	120
cacacagact	cccagagtagc	tgggactaca	ggcacacagt	cactgaagca	ggccctgttt	180
gcaattcacg	ttgccacctc	caacttaaac	attcttcata	tgtgatgtcc	ttagtcacta	240
aggttaaaact	ttcccaccca	gaaaaggcaa	cttagataaa	atcttagagt	actttcatac	300
tcttctaagt	cctcttccag	cctcactttg	agtcctcctt	gggggttgat	aggaantntc	360



tcttggtttt ctcaataaaa tctctatcca tctcatgttt aatttggtac gcntaaaaat 420  
gctgaaaaaa ttaaaatgtt ctggtttcnc tttaaaaaaa aaaaaaaaaa aaaaaa 476

<210> 81  
<211> 232  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(232)  
<223> n = A,T,C or G

<400> 81  
tttttttttg tatgcctcn ctgtgngtt attgttgctg ccaccctgga ggagcccagt 60  
ttcttctgta tctttctttt ctggggggtc ttcttggtc tgccctcca ttcccagct 120  
ctcatcccca tcttgcaatt ttgctagggt tggagcgct ttctggtag cccctcagag 180  
actcagtcag cgggaataag tcctaggggt ggggggtgtg gcaagccggc ct 232

<210> 82  
<211> 383  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(383)  
<223> n = A,T,C or G

<400> 82  
aggcgggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactggtgcc 60  
agtaccagta ccaataacat gccagtgcc gtgccagcac cagtgggtggc ttcagtgtg 120  
gtgccagcct gaccgccact ctcacatttg ggctcttcgc tggccttggt ggagctggtg 180  
ccagcaccag tggcagctct ggtgcctgtg gtttctccta caagtgagat tttagatatt 240  
gttaatcctg ccagtctttc tcttcaagcc aggggtgcac ctcagaaacc tactcaacac 300  
agcactctng gcagccacta tcaatcaatt gaagttgaca ctctgcatta aatctatttg 360  
ccatttcaaa aaaaaaaaaa aaa 383

<210> 83  
<211> 494  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(494)  
<223> n = A,T,C or G

<400> 83  
accgaattgg gaccgtggc ttataagcga tcatgtctc cagtattacc tcaacgagca 60  
gggagatcga gtctatacgc tgaagaaatt tgaccgatg ggacaacaga cctgctcagc 120  
ccatcctgct cgttctccc agatgacaa atactctcga caccgaatca ccatcaagaa 180  
acgcttcaag gtgctcatga cccagcaacc gcgcctgtc ctctgagggt ccttaaaactg 240  
atgtcttttc tgccacctgt taccctcgg agactccgta accaaactct tcggactgtg 300  
agccctgatg cctttttgcc agccatactc tttggentcc agtctctcgt ggcgattgat 360

tatgcttgtg	tgaggcaatc	atggtggcat	cacccatnaa	gggaacacat	ttganttttt	420
tttcncatat	tttaaattac	naccagaata	nttcagaata	aatgaattga	aaaactctta	480
aaaaaaaaaa	aaaa					494

<210> 84  
 <211> 380  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(380)  
 <223> n = A,T,C or G

<400> 84	
gctggtagcc	tatggcgtgg ccacggangg gctcctgagg cacgggacag tgacttccca 60
agtatcctgc	gccgcgtctt ctaccgtccc tacctgcaga tcttcgggca gattccccag 120
gaggacatgg	acgtggccct catggagcac agcaactgct cgtcggagcc cggcttctgg 180
gcacaccctc	ctggggccca ggccgggacc tgcgtctccc agtatgccaa ctggctggtg 240
gtgctgctcc	tcgtcatctt cctgctcgtg gccaacatcc tgctggtcac ttgctcattg 300
ccatgttcag	ttacacattc ggcaaagtac agggcaacag cnatctctac tgggaaggcc 360
agcgttnccg	cctcatccgg 380

<210> 85  
 <211> 481  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(481)  
 <223> n = A,T,C or G

<400> 85	
gagttagctc	ctccacaacc ttgatgaggt cgtctgcagt ggcctctcgc ttcataccgc 60
tnccatcgtc	atactgtagg tttgccacca cctcctgcat ctggggcgcg ctaatatcca 120
ggaaactctc	aatcaagtca ccgtcnatna aacctgtggc tggttctgtc ttcgctcgg 180
tgtgaaagga	tctccagaag gagtgtcga tcttccccac acttttgatg actttattga 240
gtcgattctg	catgtccagc aggaggtgt accagctctc tgacagttag gtcaccagcc 300
ctatcatgcc	nttgaacgtg ccgaagaaca ccgagccttg tgtggggggg gnagtctcac 360
ccagattctg	cattaccaga nagccgtggc aaaaganatt gacaactcgc ccaggngaa 420
aaagaacacc	tcctggaagt gctngccgct cctcgtcctt tgggtggngc gcntncttt 480
t	481

<210> 86  
 <211> 472  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(472)  
 <223> n = A,T,C or G

<400> 86

```

aacatcttcc tgtataatgc tgtgtaatat cgatccgatn ttgtctgctg agaattcatt      60
acttggaaaa gcaacttnaa gcctggacac tggattataa attcacaata tgcaacactt      120
taaacagtgt gtcaatctgc tcccttactt tgatcacc accgtctgggaa taagggtatg      180
ccctattcac acctgttaaa agggcgctaa gcatttttga ttcaacatct ttttttttga      240
cacaagtccg aaaaaagcaa aagtaaacag ttnttaattt gttagccaat tcactttctt      300
catgggacag agccatttga tttaaaaagc aaattgcata atattgagct ttgggagctg      360
atatntgagc ggaagantag cctttctact tcaccagaca caactccttt catattggga      420
tgttnacnaa agttatgtct cttacagatg ggatgctttt gtggcaattc tg              472

```

```

<210> 87
<211> 413
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(413)
<223> n = A,T,C or G

```

```

<400> 87
agaaaccagt atctctnaaa acaacctctc ataccttgtg gacctaatTT ttgtgtgctg      60
tgtgtgtgCG cgcatattat atagacaggc acatcttttt tacttttgta aaagcttatg      120
cctcttttgg atctatatct gtgaaagttt taatgatctg ccataatgtc ttggggacct      180
ttgtcttctg tgtaaattgt actagagaaa acacctatnt tatgagtcaa tctagttngt      240
tttattcgac atgaaggaaa tttccagatn acaactctna caaactctcc cttgactagg      300
ggggacaaaag aaaagcnaaa ctgaacatna gaaacaattn cctggtgaga aattncataa      360
acagaaattg ggtingtatat tgaaananng catcattnaa acgttttttt ttt              413

```

```

<210> 88
<211> 448
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(448)
<223> n = A,T,C or G

```

```

<400> 88
cgcagcgggt cctctctatc tagctccagc ctctcgctg cccactccc cgcgtcccgc      60
gtcctagccn accatggccg ggcccctgCG cgcccctgctg ctctgctgg ccactctggc      120
cgtggccctg gccgtgagcc cgcgggccgG ctccagtcce ggcaagccgc cgcgcctggt      180
gggaggccca tggaccccgc gtggaagaag aagggtgtgCG gcgtgcactg gactttgccg      240
tcggcnanta caacaaaccc gcaacnactt ttaccnagcn cgcgtgcag gttgtgccgc      300
cccaancaaa ttgttactng gggtaantaa ttcttggaag ttgaacctgG gccaaaacng      360
tttaccagaa ccnagccaat tngaacaatt ncccctccat aacagcccct tttaaaaagg      420
gaancantcc tgntcttttc caaatttt              448

```

```

<210> 89
<211> 463
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature

```

&lt;222&gt; (1)...(463)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 89

gaattttgtg	cactggccac	tgtgatggaa	ccattgggcc	aggatgcttt	gagtttatca	60
gtagtgattc	tgccaaagtt	ggtgttgtaa	catgagtatg	taaaatgtca	aaaaattagc	120
agaggtctag	gtctgcatat	cagcagacag	tttgcccg	tattttgtag	ccttgaagtt	180
ctcagtgaca	agttntttct	gatgcgaagt	tctnattcca	gtgttttagt	cctttgcac	240
tttnatgtn	agacttgctt	ctntnaaatt	gcttttgtnt	tctgcaggta	ctatctgtgg	300
tttaacaaaa	tagaannact	tctctgcttn	gaanatttga	atatcttaca	tctnaaaatn	360
aattctctcc	ccatannaaa	acccangccc	ttggganaat	ttgaaaaang	gntccttcnn	420
aattcnnana	anttcagntn	tcatacaaca	naacngganc	ccc		463

&lt;210&gt; 90

&lt;211&gt; 400

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(400)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 90

agggattgaa	ggtctntnt	actgtcggac	tgttcancca	ccaactctac	aagttgctgt	60
cttccactca	ctgtctgtaa	gcntnttaac	ccagactgta	tcttcataaa	tagaaciaaat	120
tcttcaccag	tcacatcttc	taggaccttt	ttggattcag	ttagtataag	ctcttccact	180
tcctttgtta	agacttcac	tggtaaagtc	ttaagttttg	tagaaaggaa	tttaattgct	240
cgttctctaa	caatgtcctc	tccttgaagt	atttggtgta	acaaccacc	tnaagtcctt	300
ttgtgcatcc	attttaaata	tacttaatag	ggcattggtn	cactagggtta	aattctgcaa	360
gagtcacctg	tctgcaaaag	ttgcgttagt	atatctygca			400

&lt;210&gt; 91

&lt;211&gt; 480

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(480)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 91

gagctcggat	ccaataatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaact	60
ggtctacccc	acatgggagc	agcatgccgt	agntatataa	ggtcattccc	tgagtcagac	120
atgcctcttt	gactaccgtg	tgccagtgtc	ggtgattctc	acacacctcc	nnccgctctt	180
tgtggaaaaa	ctggcacttg	nctggaacta	gcaagacatc	acttaciaaat	tcacccacga	240
gacacttgaa	aggtgtaaca	aagcgactct	tgcattgctt	tttgccctc	cggcaccagt	300
tgtcaatact	aacccgctgg	tttgccctca	tcacatttgt	gatctgtagc	tctggatata	360
tctcctgaca	gtactgaaga	acttcttctt	ttgtttcaaa	agcaactctt	ggtgcctgtt	420
ngatcagggt	cccatttccc	agtcggaatg	ttcacatggc	atatnttact	tcccacaaaa	480

&lt;210&gt; 92

&lt;211&gt; 477

&lt;212&gt; DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(477)

<223> n = A,T,C or G

<400> 92

atacagccca	natcccacca	cgaagatgcg	cttggttgact	gagaacctga	tgcgggtcact	60
ggccccgctg	tagccccagc	gactctccac	ctgctggaag	cggttgatgc	tgcactcctt	120
cccacgcagg	cagcagcggg	gccgggtcaat	gaactccact	cgtggccttg	ggttgacggg	180
taantgcagg	aagaggctga	ccacctcgcg	gtccaccagg	atgccccgact	gtgcggggacc	240
tgcagcgaaa	ctcctcgatg	gtcatgagcg	ggaagcgaat	gangcccagg	gccttgccca	300
gaaccttccg	cctgtttctt	ggcgtcacct	gcagctgctg	ccgctnacac	tgggcctcgg	360
accagcggac	aaacggcggt	gaacagccgc	acctcacgga	tgcccantgt	gtcgcgctcc	420
aggaacggcn	ccagcgtgtc	caggtcaatg	tcggtgaanc	ctccgcgggt	aatggcg	477

<210> 93

<211> 377

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(377)

<223> n = A,T,C or G

<400> 93

gaacggctgg	accttgccctc	gcattgtgct	gctggcagga	ataccttggc	aagcagctcc	60
agtccgagca	gccccagacc	gctgccgccc	gaagctaagc	ctgcctcttg	ccttccccctc	120
cgcctcaatg	cagaaccant	agtgggagca	ctgtgttttag	agttaagagt	gaacactgtg	180
tgattttact	tgggaatttc	ctctgttata	tagcttttcc	caatgctaata	ttccaaacaa	240
caacaacaaa	ataacatgtt	tgctgttna	gttggtataaa	agtangtgat	tctgtatnta	300
aagaaaatat	tactgttaca	tatactgctt	gcaanttctg	tatttattgg	tnctctggaa	360
ataaatatat	tattaaa					377

<210> 94

<211> 495

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(495)

<223> n = A,T,C or G

<400> 94

ccctttgagg	ggttaggggc	cagttcccag	tggaagaaac	agggcaggag	aantgcgtgc	60
cgagctgang	cagatttccc	acagtgaccc	cagagccctg	ggctatagtc	tctgaccctt	120
ccaaggaaag	accaccttct	ggggacatgg	gctggagggc	aggacctaga	ggcaccaagg	180
gaaggcccca	ttccggggct	gttccccgag	gaggaagggg	aggggctctg	tgtgcccccc	240
acgaggaana	ggccctgant	cctgggatca	nacaccctt	cacgtgtatc	cccacacaaa	300
tgcaagctca	ccaaggtccc	ctctcagtc	cttccctaca	ccctgaacgg	ncactggccc	360
acacccaccc	agancancca	cccgccatgg	ggaatgtnt	caaggaatcg	cngggcaacg	420
tggactctng	tcccnaagg	gggcagaatc	tccaatagan	gganngaacc	cttgctnana	480

aaaaaaaaana aaaaaa

495

<210> 95  
 <211> 472  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(472)  
 <223> n = A,T,C or G

&lt;400&gt; 95

ggttacttgg	tttcattgcc	accacttagt	ggatgtcatt	tagaaccatt	ttgtctgctc	60
cctctggaag	ccttgccgag	agcggacttt	gtaattgttg	gagaataact	gctgaatttt	120
tagctgtttt	gagttgattc	gcaccactgc	accacaactc	aatatgaaaa	ctatttnact	180
tatttattat	cttgtgaaaa	gtatacaatg	aaaattttgt	tcatactgta	tttatcaagt	240
atgatgaaaa	gcaatagata	tatattcttt	tattatgttn	aattatgatt	gccattatta	300
atcggcaaaa	tgtggagtgt	atgttctttt	cacagtaata	tatgcctttt	gtaacttcac	360
ttggttattt	tattgtaaat	gaattacaaa	attcttaatt	taagaaaatg	gtangttata	420
tttanttcan	taatttcttt	ccttgtttac	gttaattttg	aaaagaatgc	at	472

<210> 96  
 <211> 476  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(476)  
 <223> n = A,T,C or G

&lt;400&gt; 96

ctgaagcatt	tcttcaaact	tntctacttt	tgtcattgat	acctgtagta	agttgacaat	60
gtggtgaaat	ttcaaaaatta	tatgtaactt	ctactagttt	tacttttctcc	cccaagtctt	120
ttttaactca	tgattttttac	acacacaatc	cagaacttat	tatatagcct	ctaagtcttt	180
attcttcaca	gtagatgatg	aaagagtctt	ccagtgtctt	gngcanaatg	ttctagntat	240
agctggatac	atacngtggg	agttctataa	actcatacct	cagtgggact	naaccaaaat	300
tgtgttagtc	tcaattccta	ccacactgag	ggagcctccc	aatcactat	attcttatct	360
gcaggtactc	ctccagaaaa	acngacaggg	caggcttgca	tgaaaaagtn	acatctgcgt	420
tacaaagtct	atcttcctca	nangtctgtn	aaggaacaat	ttaatcttct	agcttt	476

<210> 97  
 <211> 479  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(479)  
 <223> n = A,T,C or G

&lt;400&gt; 97

actctttcta	atgctgatat	gatcttgagt	ataagaatgc	atatgtcact	agaatggata	60
aaataatgct	gcaaacttaa	tgttcttatg	caaatggaa	cgctaataa	acacagctta	120

caatcgcaaa tcaaaactca caagtgtctca tctgtttag	atttagtgta ataagactta	180
gattgtgtct cttcggatat gattgtttct canatcttgg	gcaatnttcc ttagtcaaat	240
caggctacta gaattctgtt attggatatn tgagagcatg	aaatttttaa naatacactt	300
gtgattatna aattaatcac aaatttcact tatacctgct	atcagcagct agaaaaacat	360
ntnnttttta natcaaagta ttttgtgttt ggaantgtnn	aaatgaaatc tgaatgtggg	420
ttcnatctta ttttttcccn gacnactant tnccttttta	gggnctattc tganccatc	479

&lt;210&gt; 98

&lt;211&gt; 461

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 98

agtgacttgt cctccaacaa aacccttga tcaagtttgt	ggcactgaca atcagaccta	60
tgctagtccc tgcctctat tcgtactaa atgcagactg	gaggggacca aaaaggggca	120
tcaactccag ctggattatt ttggagcctg caaatctatt	cctacttgta cggactttga	180
agtgattcag tttcctctac ggatgagaga ctggctcaag	aatatcctca tgcagcttta	240
tgaagccact ctgaacacgc tggttatcta gatgagaaca	gagaaataaa gtcagaaaaat	300
ttacctggag aaaagaggct ttggctgggg accatcccat	tgaaccttct cttaaggact	360
ttaagaaaaa ctaccacatg ttgtgtatcc tggtgccggc	cgtttatgaa ctgaccaccc	420
tttggaataa tcttgacgct cctgaacttg ctcctctgcg	a	461

&lt;210&gt; 99

&lt;211&gt; 171

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 99

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&lt;211&gt; 269

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 100

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&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 101

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&lt;400&gt; 105

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&lt;210&gt; 106

&lt;211&gt; 473

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 106

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&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 107

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 <213> Homo sapien

<400> 108

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50     55     60
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65     70     75     80
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115    120    125
Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
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145    150    155    160
Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
165    170    175
Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
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210    215    220
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&lt;211&gt; 1289

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 111

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accctggcaa gcagcagtgat ttggggggagg ggacaggatc taacaatgtc acttggggcca 960
gaatggacct gccctttctg ctccagactt ggggctagat agggaccact ccttttagcg 1020
atgcctgact ttccttccat tgggtgggtgg atgggtgggg ggcattccag agcctctaag 1080
gtagccagtt ctgttgccca ttccccagc ctattaaacc cttgatatgc cccctagggc 1140
tagtggtagt cccagtgtct tactggggga tgagagaaag gcattttata gcctggggcat 1200
aagtgaatc agcagagcct ctgggtggat gtgtagaagg cacttcaaaa tgcataaacc 1260
tggtacaatg ttaaaaaaaaa aaaaaaaaaa 1289

```

&lt;210&gt; 112

&lt;211&gt; 315

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 112

```

Met Val Phe Thr Val Arg Leu Leu His Ile Phe Thr Val Asn Lys Gln
1 5 10 15
Leu Gly Pro Lys Ile Val Ile Val Ser Lys Met Met Lys Asp Val Phe
20 25 30
Phe Phe Leu Phe Phe Leu Gly Val Trp Leu Val Ala Tyr Gly Val Ala
35 40 45
Thr Glu Gly Leu Leu Arg Pro Arg Asp Ser Asp Phe Pro Ser Ile Leu
50 55 60
Arg Arg Val Phe Tyr Arg Pro Tyr Leu Gln Ile Phe Gly Gln Ile Pro
65 70 75 80
Gln Glu Asp Met Asp Val Ala Leu Met Glu His Ser Asn Cys Ser Ser
85 90 95
Glu Pro Gly Phe Trp Ala His Pro Pro Gly Ala Gln Ala Gly Thr Cys
100 105 110
Val Ser Gln Tyr Ala Asn Trp Leu Val Val Leu Leu Leu Val Ile Phe
115 120 125
Leu Leu Val Ala Asn Ile Leu Leu Val Asn Leu Leu Ile Ala Met Phe
130 135 140
Ser Tyr Thr Phe Gly Lys Val Gln Gly Asn Ser Asp Leu Tyr Trp Lys
145 150 155 160
Ala Gln Arg Tyr Arg Leu Ile Arg Glu Phe His Ser Arg Pro Ala Leu
165 170 175
Ala Pro Pro Phe Ile Val Ile Ser His Leu Arg Leu Leu Leu Arg Gln
180 185 190
Leu Cys Arg Arg Pro Arg Ser Pro Gln Pro Ser Ser Pro Ala Leu Glu

```

195                      200                      205  
 His Phe Arg Val Tyr Leu Ser Lys Glu Ala Glu Arg Lys Leu Leu Thr  
 210                      215                      220  
 Trp Glu Ser Val His Lys Glu Asn Phe Leu Leu Ala Arg Ala Arg Asp  
 225                      230                      235                      240  
 Lys Arg Glu Ser Asp Ser Glu Arg Leu Lys Arg Thr Ser Gln Lys Val  
 245                      250                      255  
 Asp Leu Ala Leu Lys Gln Leu Gly His Ile Arg Glu Tyr Glu Gln Arg  
 260                      265                      270  
 Leu Lys Val Leu Glu Arg Glu Val Gln Gln Cys Ser Arg Val Leu Gly  
 275                      280                      285  
 Trp Val Ala Glu Ala Leu Ser Arg Ser Ala Leu Leu Pro Pro Gly Gly  
 290                      295                      300  
 Pro Pro Pro Pro Asp Leu Pro Gly Ser Lys Asp  
 305                      310                      315

&lt;210&gt; 113

&lt;211&gt; 553

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 113

Met Val Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala  
 1                      5                      10                      15  
 Gln Leu Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu  
 20                      25                      30  
 Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val  
 35                      40                      45  
 Glu Glu Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly  
 50                      55                      60  
 Leu Val Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly  
 65                      70                      75                      80  
 Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile  
 85                      90                      95  
 Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu  
 100                      105                      110  
 Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly  
 115                      120                      125  
 Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu  
 130                      135                      140  
 Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala  
 145                      150                      155                      160  
 Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr  
 165                      170                      175  
 Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu  
 180                      185                      190  
 Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu  
 195                      200                      205  
 Thr Cys Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly  
 210                      215                      220  
 Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His  
 225                      230                      235                      240  
 Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu  
 245                      250                      255  
 Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg

260 265 270  
 Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe  
 275 280 285  
 Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val  
 290 295 300  
 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly  
 305 310 315 320  
 Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu  
 325 330 335  
 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg  
 340 345 350  
 Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala  
 355 360 365  
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu  
 370 375 380  
 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala  
 385 390 395 400  
 Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly  
 405 410 415  
 Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu  
 420 425 430  
 Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala  
 435 440 445  
 Gly Gly Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser  
 450 455 460  
 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala  
 465 470 475 480  
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp  
 485 490 495  
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser  
 500 505 510  
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala  
 515 520 525  
 Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp  
 530 535 540  
 Lys Ser Asp Leu Ala Lys Tyr Ser Ala  
 545 550

&lt;210&gt; 114

&lt;211&gt; 241

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 114

Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu  
 1 5 10 15  
 Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val  
 20 25 30  
 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser  
 35 40 45  
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly  
 50 55 60  
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr  
 65 70 75 80  
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile

				85					90				95		
Phe	Ile	Ala	Glu	Val	Ala	Ala	Ala	Val	Val	Ala	Leu	Val	Tyr	Thr	Thr
			100						105				110		
Met	Ala	Glu	His	Phe	Leu	Thr	Leu	Leu	Val	Val	Pro	Ala	Ile	Lys	Lys
			115						120				125		
Asp	Tyr	Gly	Ser	Gln	Glu	Asp	Phe	Thr	Gln	Val	Trp	Asn	Thr	Thr	Met
			130				135					140			
Lys	Gly	Leu	Lys	Cys	Cys	Gly	Phe	Thr	Asn	Tyr	Thr	Asp	Phe	Glu	Asp
					150					155				160	
Ser	Pro	Tyr	Phe	Lys	Glu	Asn	Ser	Ala	Phe	Pro	Pro	Phe	Cys	Cys	Asn
				165					170					175	
Asp	Asn	Val	Thr	Asn	Thr	Ala	Asn	Glu	Thr	Cys	Thr	Lys	Gln	Lys	Ala
			180					185					190		
His	Asp	Gln	Lys	Val	Glu	Gly	Cys	Phe	Asn	Gln	Leu	Leu	Tyr	Asp	Ile
		195					200					205			
Arg	Thr	Asn	Ala	Val	Thr	Val	Gly	Gly	Val	Ala	Ala	Gly	Ile	Gly	Gly
		210				215				220					
Leu	Glu	Leu	Ala	Ala	Met	Ile	Val	Ser	Met	Tyr	Leu	Tyr	Cys	Asn	Leu
					230					235				240	
Gln															

<210> 115  
 <211> 366  
 <212> DNA  
 <213> Homo sapien

<400> 115  
 gctctttctc tcccctcctc tgaatttaaat tctttcaact tgcaatttgc aaggattaca 60  
 catttcactg tgatgtatat tgtgttgcaa aaaaaaaaaa gtgtctttgt ttaaaattac 120  
 ttggtttggt aatccatctt gctttttccc cattggaact agtcattaac ccatctctga 180  
 actggtagaa aaacatctga agagctagtc tatcagcatc tgacagggtga attggatggt 240  
 tctcagaacc atttcaccca gacagcctgt ttctatcctg tttaataaat tagtttgggt 300  
 tctctacatg cataacaaac cctgctccaa tctgtcacat aaaagtctgt gacttgaagt 360  
 ttagtc 366

<210> 116  
 <211> 282  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (282)  
 <223> n = A,T,C or G

<400> 116  
 acaaagatga accatttcct atattatagc aaaattaaaa tctaccgta ttctaattatt 60  
 gagaaatgag atnaaacaca atnttataaa gtctacttag agaagatcaa gtgacctcaa 120  
 agactttact attttcatat tttaagacac atgattttat ctattttagt aacctgggtc 180  
 atacgttaaa caaaggataa tgtgaacagc agagaggatt tgttggcaga aaatctatgt 240  
 tcaatctnga actatctana tcacagacat ttctattcct tt 282

<210> 117  
 <211> 305



&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(305)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 117

acacatgtcg	cttcactgcc	ttcttagatg	cttctgggtca	acatanagga	acagggacca	60
tatttatcct	ccctcctgaa	acaattgcaa	aataanacaa	aatatatgaa	acaattgcaa	120
aataaggcaa	aatatatgaa	acaacagggtc	tcgagatatt	ggaaatcagt	caatgaagga	180
tactgatccc	tgatcactgt	cctaatgcag	gatgtgggaa	acagatgagg	tcacctctgt	240
gactgcccc	gcttactgcc	tgtagagagt	ttctangctg	cagttcagac	agggagaaat	300
tggggt						305

&lt;210&gt; 118

&lt;211&gt; 71

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(71)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 118

accaaggtgt	ntgaatctct	gacgtgggga	tctctgattc	cgcacaatc	tgagtggaaa	60
aantcctggg	t					71

&lt;210&gt; 119

&lt;211&gt; 212

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(212)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 119

actccggttg	gtgtcagcag	cacgtggcat	tgaacatngc	aatgtggagc	ccaaaccaca	60
gaaaatgggg	tgaaattggc	caactttcta	tnaacttatg	ttggcaantt	tgccaccaac	120
agtaagctgg	cccttcta	aaaagaaaat	tgaaaggttt	ctcactaanc	ggaattaant	180
aatggantca	aganactccc	aggcctcagc	gt			212

&lt;210&gt; 120

&lt;211&gt; 90

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(90)

&lt;223&gt; n = A,T,C or G

<400> 120  
 actcggttgca natcaggggc cccccagagt caccggttgca ggagtccttc tgggtcttgcc 60  
 ctccgccggc gcagaacatg ctgggggtggt 90

<210> 121  
 <211> 218  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(218)  
 <223> n = A,T,C or G

<400> 121  
 tgtancgtga anacgacaga nagggttgtc aaaaatggag aanccttgaa gtcattttga 60  
 gaataagatt tgctaaaaga tttgggggcta aaacatgggtt attggggagac atttctgaag 120  
 atatncangt aaattangga atgaattcat ggttccttttg ggaattcctt tacgatngcc 180  
 agcatanact tcatgtgggg atancagcta cccttgta 218

<210> 122  
 <211> 171  
 <212> DNA  
 <213> Homo sapien

<400> 122  
 taggggtgta tgcaactgta aggacaaaaa ttgagactca actggccttaa ccaataaagg 60  
 catttggttag ctcatggaac aggaagtcgg atgggtggggc atcttcagtg ctgcatgagt 120  
 caccaccccg gcgggggtcat ctgtgccaca ggtccctgtt gacagtgcgg t 171

<210> 123  
 <211> 76  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(76)  
 <223> n = A,T,C or G

<400> 123  
 tgtagcgtga agacnacaga atgggtgtgtg ctgtgctatc caggaacaca tttattatca 60  
 ttatcaanta ttgtgt 76

<210> 124  
 <211> 131  
 <212> DNA  
 <213> Homo sapien

<400> 124  
 acctttcccc aaggccaatg tcctgtgtgc taactggccg gctgcaggac agctgcaatt 60  
 caatgtgctg ggtcatatgg aggggaggag actctaaaat agccaatttt attctcttgg 120  
 ttaagatttg t 131

<210> 125  
 <211> 432  
 <212> DNA  
 <213> Homo sapien

<400> 125  
 accttatcta ctggctatga aatagatggt ggaaaattgc gttaccaact ataccactgg 60  
 cttgaaaaag aggtgatagc tcttcagagg acttgtgact tttgctcaga tgctgaagaa 120  
 ctacagtctg catttggcag aaatgaagat gaatttggat taaatgagga tgctgaagat 180  
 ttgcctcacc aaacaaaagt gaaacaactg agagaaaatt ttcaggaaaa aagacagtgg 240  
 ctcttgaagt atcagtcact tttgagaatg tttcttagtt actgcatact tcatggatcc 300  
 catgggtgggg gtcttgcacg tgtaagaatg gaattgattt tgcttttgca agaattctcag 360  
 caggaaacat cagaaccact attttctagc cctctgtcag agcaaacctc agtgcctctc 420  
 ctctttgctt gt 432

<210> 126  
 <211> 112  
 <212> DNA  
 <213> Homo sapien

<400> 126  
 acacaacttg aatagtaaaa tagaaactga gctgaaattt ctaattcact ttctaaccat 60  
 agtaagaatg atatttcccc ccagggatca ccaaatattt ataaaaattt gt 112

<210> 127  
 <211> 54  
 <212> DNA  
 <213> Homo sapien

<400> 127  
 accacgaaac cacaacaag atggaagcat caatccactt gccaaagcaca gcag 54

<210> 128  
 <211> 323  
 <212> DNA  
 <213> Homo sapien

<400> 128  
 acctcattag taattgtttt gttgtttcat ttttttctaa tgtctcccct ctaccagctc 60  
 acctgagata acagaatgaa aatggaagga cagccagatt tctcctttgc tctctgctca 120  
 ttctctctga agtctagggt acccattttg gggaccatt ataggcaata aacacagtgc 180  
 ccaaagcatt tggacagtgt cttgttgtgt tttagaatgg ttttcctttt tcttagcctt 240  
 ttcttgcaaa aggtcactc agtccttgc ttgctcagtg gactgggctc ccagggcct 300  
 aggtgcctt cttttccatg tcc 323

<210> 129  
 <211> 192  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(192)  
 <223> n = A,T,C or G

&lt;400&gt; 129

```

acatacatgt gtgtatatatt ttaaatatca cttttgtatc actctgactt tttagcatatc 60
tgaaaacaca ctaacataat ttntgtgaac catgatcaga tacaacccaa atcattcatc 120
tagcacattc atctgtgata naaagatagg tgagtttcat ttccttcacg ttggccaatg 180
gataaacaaa gt 192

```

&lt;210&gt; 130

&lt;211&gt; 362

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(362)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 130

```

ccctttttta tggaatgagt agactgtatg tttgaanatt tanccacaac ctctttgaca 60
tataatgacg caacaaaaag gtgctgttta gtcctatggg tcagtttatg cccctgacaa 120
gtttccattg tgttttgccg atcttctggc taatcgtggg atcctccatg ttattagtaa 180
ttctgtattc cattttgta acgcctggta gatgtaacct gctangaggc taactttata 240
cttattttaa agctcttatt ttgtgggcat taaaatggca atttatgtgc agcactttat 300
tgcagcagga agcacgtgtg ggttggttgt aaagctcttt gctaatttta aaaagtaatg 360
gg 362

```

&lt;210&gt; 131

&lt;211&gt; 332

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(332)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 131

```

ctttttgaaa gatcgtgtcc actcctgtgg acatcttggt ttaatggagt ttcccatgca 60
gtangactgg tatggttgca gctgtccaga taaaaacatt tgaagagctc caaaatgaga 120
gttctcccag gttgcacctg ctgctccaag tctcagcagc agcctctttt aggaggcatc 180
ttctgaacta gattaaggca gcttgtaa atctgatgtat ttgggtttatt atccaactaa 240
cttccatctg ttatcactgg agaaagccca gactcccan gacnggtacg gattgtgggc 300
atanaaggat tgggtgaagc tggcgttgtg gt 332

```

&lt;210&gt; 132

&lt;211&gt; 322

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(322)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 132

```

acttttgcca tttgttatat ataaacaatc ttgggacatt ctctgaaaa ctaggtgtcc 60

```

```

agtggctaag agaactcgat ttcaagcaat tctgaaagga aaaccagcat gacacagaat 120
ctcaaattcc caaacagggg ctctgtggga aaaatgaggg aggacctttg tatctcgggt 180
tttagcaagt taaaatgaan atgacaggaa aggcttattt atcaacaaaag agaagagttg 240
ggatgcttct aaaaaaaact ttggtagaga aaataggaat gctnaatcct agggaagcct 300
gtaacaatct acaattggtc ca 322

```

&lt;210&gt; 133

&lt;211&gt; 278

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(278)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 133

```

acaagccttc acaagtttaa ctaaattggg attaatcttt ctgtanttat ctgcataatt 60
cttggttttc tttccatctg gctcctgggt tgacaatttg tggaaacaac tctattgcta 120
ctatttaaaa aaaatcacaa atctttccct ttaagctatg ttnaattcaa actattcctg 180
ctattcctgt tttgtcaaag aaattatatt tttcaaaata tgtntatttg tttgatgggt 240
cccacgaaac actaataaaa accacagaga ccagcctg 278

```

&lt;210&gt; 134

&lt;211&gt; 121

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(121)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 134

```

gtttanaaaa ctgttttagc tccatagagg aaagaatggt aaactttgta ttttaaaaca 60
tgattctctg aggttaaact tggttttcaa atgttatttt tacttgtatt ttgcttttgg 120
t 121

```

&lt;210&gt; 135

&lt;211&gt; 350

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(350)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 135

```

acttanaacc atgcctagca catcagaatc cctcaaagaa catcagtata atcctatacc 60
atancaagtg gtgactggtt aagcgtgcga caaagggtcag ctggcacatt acttgtgtgc 120
aaacttgata cttttgttct aagtaggaac tagtatacag tncctaggan tggtagtcca 180
gggtgcccc caactcctgc agccgtcct ctgtgccagn ccctgnaagg aactttcgct 240
ccacctcaat caagccctgg gccatgctac ctgcaattgg ctgaacaaac gtttgetgag 300
ttcccaagga tgcaaagcct ggtgctcaac tcttggggcg tcaactcagt 350

```

<210> 136  
 <211> 399  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (399)  
 <223> n = A,T,C or G

<400> 136  
 tgtaccgtga agacgacaga agttgcatgg cagggacagg gcagggccga ggccagggtt 60  
 gctgtgattg tatccgaata ntctcgtga gaaaagataa tgagatgacg tgagcagcct 120  
 gcagacttgt gtctgccttc aanaagccag acaggaaggc cctgcctgcc ttggctctga 180  
 cctggcggcc agccagccag ccacaggtgg gcttcttctt tttgtggtga caacnccaag 240  
 aaaactgcag aggccagggt tcaggtgtna gtgggtangt gaccataaaa caccaggtgc 300  
 tcccaggaac cggggcaaag gccatcccca cctacagcca gcatgcccac tggcgtgatg 360  
 ggtgcagang gatgaagcag ccagntgttc tgctgtggt 399

<210> 137  
 <211> 165  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (165)  
 <223> n = A,T,C or G

<400> 137  
 actggtgtgg tngggggtga tgctggtggt anaagttgan gtgacttcan gatggtgtgt 60  
 ggaggaagtg tgtgaacgta gggatgtaga ngttttggcc gtgctaaatg agcttcggga 120  
 ttggctggtc ccactggtgg tcactgtcat tgggtggggt cctgt 165

<210> 138  
 <211> 338  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (338)  
 <223> n = A,T,C or G

<400> 138  
 actcactgga atgccacatt cacaacagaa tcagaggtct gtgaaaacat taatggctcc 60  
 ttaacttctc cagtaagaat cagggacttg aaatggaaac gttaacagcc acatgcccaa 120  
 tgctgggcag tctcccatgc ctccacagt gaaagggctt gagaaaaatc acatccaatg 180  
 tcatgtgttt ccagccacac caaaaggtgc ttggggtgga gggctggggg catananggt 240  
 cangcctcag gaagcctcaa gttccattca gctttgccac tgtacattcc ccatntttaa 300  
 aaaaactgat gccttttttt tttttttttg taaaattc 338

<210> 139  
 <211> 382

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 139

gggaatcttg	gtttttggca	tctgggtttgc	ctatagccga	ggccactttg	acagaacaaa	60
gaaagggact	tcgagtaaga	aggtgattta	cagccagcct	agtgcccgaa	gtgaaggaga	120
attcaaacag	acctcgatcat	tcctgggtgtg	agcctgggtcg	gtccaccgcc	tatcatctgc	180
atttgcccta	ctcaggtgct	accggactct	ggccccctgat	gtctgtagtt	tcacaggatg	240
ccttattttg	cttctacacc	ccacagggcc	ccctacttct	tcggatgtgt	ttttaataat	300
gtcagctatg	tgccccatcc	tccttcatgc	cctccctccc	tttccctacca	ctgctgagtg	360
gcctggaact	tgtttaaagt	gt				382

&lt;210&gt; 140

&lt;211&gt; 200

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (200)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 140

accaaanctt	ctttctgttg	tgtnngattt	tactataggg	gttnngcttn	ttctaaanat	60
acttttcatt	taaacncttt	tgtaaagtgt	caggctgcac	tttgctccat	anaattattg	120
ttttcacatt	tcaacttgta	tgtgtttgtc	tcttanagca	ttggtgaaat	cacatatttt	180
atattcagca	taaaggagaa					200

&lt;210&gt; 141

&lt;211&gt; 335

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (335)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 141

actttatttt	caaaacactc	atatgttgca	aaaaacacat	agaaaaataa	agtttggtgg	60
gggtgctgac	taaacttcaa	gtcacagact	tttatgtgac	agattggagc	agggtttggt	120
atgcatgtag	agaacccaaa	ctaatttatt	aaacaggata	gaaacaggct	gtctgggtga	180
aatggttctg	agaaccatcc	aattcacctg	tcagatgctg	atanactagc	tcctcagatg	240
tttttctacc	agttcagaga	tnggttaatg	actanttcca	atggggaaaa	agcaagatgg	300
attcacaac	caagtaattt	taaacaaaga	cactt			335

&lt;210&gt; 142

&lt;211&gt; 459

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (459)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 142

accagggttaa	tattgccaca	tatatccttt	ccaattgctg	gctaaacaga	cgtgtattta	60
gggttggtta	aagacaaccc	agcttaatat	caagagaaat	tgtgaccttt	catggagtat	120
ctgatggaga	aaacactgag	ttttgacaaa	tcttatttta	ttcagatagc	agtctgatca	180
cacatggtcc	aacaacactc	aaataataaa	tcaaatatna	tcagatgtta	aagattggtc	240
ttcaaacatc	atagccaatg	atgccccgct	tgcttataat	ctctccgaca	taaaaccaca	300
tcaacacctc	agtggccacc	aaaccattca	gcacagcttc	cttaactgtg	agctgtttga	360
agctaccagt	ctgagcacta	ttgactatnt	ttttcangct	ctgaatagct	ctagggatct	420
cagcangggg	gggaggaacc	agctcaacct	tggcgctant			459

&lt;210&gt; 143

&lt;211&gt; 140

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 143

acatttcctt	ccaccaagtc	aggactcctg	gcttctgtgg	gagttcttat	cacctgaggg	60
aaatccaaac	agtctctcct	agaaaggaat	agtgtcacca	acccccacca	tctccctgag	120
accatccgac	tccctgtgt					140

&lt;210&gt; 144

&lt;211&gt; 164

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(164)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 144

acttcagtaa	caacatacaa	taacaacatt	aagtgtatat	tgccatcttt	gtcattttct	60
atctatacca	ctctcccttc	tgaaaacaan	aatcactanc	caatcactta	tacaaatttg	120
aggcaattaa	tccatatttg	ttttcaataa	ggaaaaaaag	atgt		164

&lt;210&gt; 145

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(303)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 145

acgtagacca	tccaactttg	tatttgtaat	ggcaaacatc	cagnagcaat	tcctaaacaa	60
actggagggt	atttataccc	aattatccca	ttcattaaca	tgccctcttc	ctcaggctat	120
gcaggacagc	tatcataagt	cggcccaggc	atccagatac	taccatttgt	ataaacttca	180
gtaggggagt	ccatccaagt	gacaggtcta	atcaaaggag	gaaatggaac	ataagcccag	240
tagtaaaatn	ttgcttagct	gaaacagcca	caaaagactt	accgccgtgg	tgattaccat	300
caa						303

&lt;210&gt; 146



<211> 327  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(327)  
 <223> n = A,T,C or G

<400> 146  
 actgcagctc aattagaagt ggtctctgac ttctcatcanc ttctccctgg gctccatgac 60  
 actggcctgg agtgactcat tgctctgggtt gggtgagaga gctcctttgc caacaggcct 120  
 ccaagtcagg gctgggattt gtttcctttc cacattctag caacaatatg ctggccactt 180  
 cctgaacagg gaggggtggga ggagccagca tggaacaagc tgccactttc taaagtagcc 240  
 agacttgccc ctgggcctgt cacacctact gatgaccttc tgtgcttgca ggatggaatg 300  
 taggggtgag ctgtgtgact ctatgggt 327

<210> 147  
 <211> 173  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(173)  
 <223> n = A,T,C or G

<400> 147  
 acattgtttt tttagataa agcattgana gagctctcct taacgtgaca caatggaagg 60  
 actggaacac ataccacat ctttggtctg agggataatt ttctgataaa gtcttgctgt 120  
 atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gtt 173

<210> 148  
 <211> 477  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(477)  
 <223> n = A,T,C or G

<400> 148  
 acaaccactt tatctcatcg aatttttaac ccaaactcac tcaactgtgcc tttctatcct 60  
 atgggatata ttatttgatg ctccatttca tcacacatat atgaataata cactcactat 120  
 gccctactac ctgctgcaat aatcacattc ccttcctgtc ctgaccctga agccattggg 180  
 gtggctctag tggccatcag tccangcctg caccttgagc ccttgagctc cattgctcac 240  
 nccanccac ctcaccgacc ccactcctt acacagctac ctcttgctc tctaacccca 300  
 tagattatnt ccaaattcag tcaattaagt tactattaac actctaccg acatgtccag 360  
 caccactggg aagccttctc cagccaacac acacacacac acacncacac acacacatat 420  
 ccaggcacag gctacctcat cttcacaatc acccctttaa ttaccatgct atgggtgg 477

<210> 149  
 <211> 207  
 <212> DNA

<213> Homo sapien

<400> 149  
acagttgtat tataatatca agaaataaac ttgcaatgag agcattttaag agggaagaac 60  
taacgtatatt tagagagcca aggaagggtt ctgtggggag tgggatgtaa ggtggggcct 120  
gatgataaat aagagtcagc caggtaagtg ggtggtgtgg tatgggcaca gtgaagaaca 180  
tttcaggcag agggaacagc agtgaac 207

<210> 150  
<211> 111  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1) ... (111)  
<223> n = A,T,C or G

<400> 150  
accttgattt cattgctgct ctgatggaaa cccaactatc taatttagct aaaacatggg 60  
cacttaaatg tggtcagtgt ttggacttgt taactantgg catctttggg t 111

<210> 151  
<211> 196  
<212> DNA  
<213> Homo sapien

<400> 151  
agcgcggcag gtcattatga acattccaga tacctatcat tactcgatgc tgttgataac 60  
agcaagatgg ctttgaactc agggtcacca ccagctattg gaccttacta tgaaaaccat 120  
ggataccaac cggaaaaccc ctatcccga cagcccactg tggccccac tgtctacgag 180  
gtgcatccgg ctcatg 196

<210> 152  
<211> 132  
<212> DNA  
<213> Homo sapien

<400> 152  
acagcacttt cacatgtaag aaggagaaa ttcctaaatg taggagaaa ataacagaac 60  
cttccccctt tcacttagtg gtggaaacct gatgctttat gttgacagga atagaaccag 120  
gaggagttt gt 132

<210> 153  
<211> 285  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1) ... (285)  
<223> n = A,T,C or G

<400> 153  
acaanacca nganaggcca ctggccgtgg tgtcatggcc tccaaacatg aaagtgtcag 60

```

cttctgctct tatgtcctca tctgacaact ctttaccatt tttatcctcg ctcagcagga      120
gcacatcaat aaagtccaaa gtcttggact tggccttggc ttggaggaag tcatcaacac      180
cctggctagt gagggtgcgg cgccgtcctt ggatgacggc atctgtgaag tcgtgcacca      240
gtctgcaggc cctgtggaag cgccgtccac acggagtnag gaatt                        285

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&lt;210&gt; 154

&lt;211&gt; 333

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 154

```

accacagtcc tgttggggcca gggcttcatg accctttctg tgaaaagcca tattatcacc      60
accccaaatt tttccttaaa tatctttaac tgaaggggtc agcctcttga ctgcaaagac      120
cctaagccgg ttacacagct aactccactt ggccctgatt tgtgaaattg ctgctgcctg      180
attggcacag gagtcgaagg tggtcagctc cctcctcctg tggaaacgaga ctctgatttg      240
agtttcacaa attctcgggc cacctcgtca ttgctcctct gaaataaaat ccggagaatg      300
gtcaggcctg tctcatccat atggatcttc cgg                                     333

```

&lt;210&gt; 155

&lt;211&gt; 308

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (308)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 155

```

actggaaata ataaaaccca catcacagtg ttgtgtcaaa gatcatcagg gcatggatgg      60
gaaagtgctt tgggaactgt aaagtgccta acacatgata gatgattttt gttataatat      120
ttgaatcacg gtgcatacaa actctcctgc ctgctcctcc tgggccccag cccagcccc      180
atcacagctc actgctctgt tcatccaggc ccagcatgta gtggctgatt cttcttggct      240
gcttttagcc tccanaagtt tctctgaagc caaccaaacc tctangtgta aggcattgctg      300
gccctggg                                     308

```

&lt;210&gt; 156

&lt;211&gt; 295

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 156

```

accttgctcg gtgcttggaa catattagga actcaaaata tgagatgata acagtgccta      60
ttattgatta ctgagagAAC tgtagacat ttagtgaag attttctaca caggaaactga      120
gaataggaga ttatgttttg cctcatatt ctctcctatc ctcttgcct cattctatgt      180
ctaatatatt ctcaatcaaa taaggtttagc ataatcagga aatcgaccaa ataccaatat      240
aaaaccagat gtctatcctt aagattttca aatagaaaac aaattaacag actat          295

```

&lt;210&gt; 157

&lt;211&gt; 126

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 157

```

acaagtttaa atagtgtgt cactgtgcat gtgctgaaat gtgaaatcca ccacatttct      60

```

gaagagcaaa acaaattctg tcatgtaatc tctatcttgg gtcgtgggta tatctgtccc 120  
cttagt 126

<210> 158  
<211> 442  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(442)  
<223> n = A,T,C or G

<400> 158  
accactggt cttggaaaca cccatcctta atacgatgat ttttctgtcg tgtgaaaatg 60  
aanccagcag gctgccccta gtcagtcctt ccttcagag aaaaagagat ttgagaaagt 120  
gcctgggtaa ttcaccatta atttcctccc ccaaactctc tgagtcttcc cttaatattt 180  
ctggtggttc tgaccaaagc aggtcatggt ttgttgagca tttgggatcc cagtgaagta 240  
natgtttgta gccttgcata cttagccctt cccacgcaca aacggagtgg cagagtgggt 300  
ccaaccctgt tttcccagtc cacgtagaca gattcacagt gcggaattct ggaagctgga 360  
nacagacggg ctctttgcag agccgggact ctgagangga catgagggcc tctgcctctg 420  
tgttcattct ctgatgtcct gt 442

<210> 159  
<211> 498  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(498)  
<223> n = A,T,C or G

<400> 159  
acttccaggt aacgttggtg tttccggtga gcctgaactg atgggtgacg ttgtaggttc 60  
tccaacaaga actgaggttg cagagcgggt agggagagat gctgttccag ttgcacctgg 120  
gctgctgtgg actgttggtg attcctcact acggcccaag gttgtggaac tggcanaaag 180  
gtgtgtgtgt gganttgagc tcgggcggct gtggtaggtt gtgggtctct caacaggggc 240  
tgctgtgtgt ccgggangtg aangtggtgt gtcacttgag cttggccagc tctggaaagt 300  
antanattct tcctgaaggc cagcgcttgt ggagctggca ngggtcantg ttgtgtgtaa 360  
cgaaccagtg ctgctgtggg tgggtgtana tcctccacaa agcctgaagt tatggtgtcn 420  
tcaggtaana atgtggtttc agtgcctctg ggcngctgtg gaaggttgta nattgtcacc 480  
aagggaataa gctgtggt 498

<210> 160  
<211> 380  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(380)  
<223> n = A,T,C or G

<400> 160

acctgcatcc agcttccctg ccaaactcac aaggagacat caacctctag acagggaaac	60
agcttcagga tacttccagg agacagagcc accagcagca aaacaaatat tcccatgcct	120
ggagcatggc atagaggaag ctganaaatg tggggctctga ggaagccatt tgagtctggc	180
cactagacat ctcatcagcc acttgtgtga agagatgccc catgacccca gatgcctctc	240
ccacccttac ctccatctca cacacttgag ctttccactc tgtataattc taacatcctg	300
gagaaaaatg gcagtttgac cgaacctgtt cacaacggta gaggctgatt tctaacgaaa	360
cttgtagaat gaagcctgga	380

&lt;210&gt; 161

&lt;211&gt; 114

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 161

actccacatc ccctctgagc aggcgggttg cgttcaaggt gtatttggcc ttgcctgtca	60
cactgtccac tggccctta tccacttggt gcttaatccc tcgaaagagc atgt	114

&lt;210&gt; 162

&lt;211&gt; 177

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 162

actttctgaa tcgaatcaaa tgatacttag tgtagtttta atatcctcat atatatcaaa	60
gttttactac tctgataatt ttgtaaacca ggtaaccaga acatccagtc atacagcttt	120
tggtgatata taacttggca ataaccagc ctggtgatac ataaaactac tcactgt	177

&lt;210&gt; 163

&lt;211&gt; 137

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (137)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 163

catttataca gacaggcgtg aagacattca cgacaaaaac gcgaaattct atcccgtgac	60
canagaaggc agctacggct actcctacat cctggcgtgg gtggccttcg cctgcacctt	120
catcagcggc atgatgt	137

&lt;210&gt; 164

&lt;211&gt; 469

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (469)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 164

cttatcacia tgaatgttct cctgggcagc gttgtgatct ttgccacctt cgtgacttta	60
tgcaatgcat catgctattt catacctaag gagggagttc caggagattc aaccaggaaa	120

tgcatggatc	tcaaaggaaa	caaacaccca	ataaactcgg	agtggcagac	tgacaactgt	180
gagacatgca	cttgctacga	aacagaaatt	tcattgttgc	cccttggttc	tacacctgtg	240
ggttatgaca	aagacaactg	ccaaagaatc	ttcaagaagg	aggactgcaa	gtatatcgtg	300
gtggagaaga	aggaccctaa	aaagacctgt	tctgtcagtg	aatggataat	ctaattgtgct	360
tctagttagg	acagggctcc	caggccaggc	ctcattctcc	tctggcctct	aatagtcaat	420
gatttgtgtg	ccatgcctat	cagtaaaaag	atntttgagc	aaacacttt		469

&lt;210&gt; 165

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(195)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 165

acagtttttt	atanatatcg	acattgccgg	cacttgtgtt	cagtttcata	aagctgggtg	60
atccgctgtc	atccactatt	ccttggttag	agtaaaaatt	attcttatag	cccattgtcc	120
tgcaggccgc	ccgcccgtag	ttctcgttcc	agtcgtcttg	gcacacaggg	tgccaggact	180
tcctctgaga	tgagt					195

&lt;210&gt; 166

&lt;211&gt; 383

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(383)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 166

acatcttagt	agtgtggcac	atcagggggc	catcaggggc	acagtcactc	atagcctcgc	60
cgaggtcgga	gtccacacca	ccggtgtagg	tgtgctcaat	cttgggcttg	gcgcccacct	120
ttggagaagg	gatatgctgc	acacacatgt	ccacaaagcc	tgtgaactcg	ccaaagaatt	180
tttgagacc	agcctgagca	aggggcggat	gttcagcttc	agctcctcct	tcgtcagggtg	240
gatgccaaac	tcgtctangg	tccgtgggaa	gctgggtgcc	acntcaccta	caacctgggc	300
gangatctta	taaagagggt	ccnagataaa	ctccacgaaa	cttctctggg	agctgctagt	360
nggggccttt	ttggtgaact	ttc				383

&lt;210&gt; 167

&lt;211&gt; 247

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(247)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 167

acagagccag	accttggcca	ttaatgaanc	agagattaag	actaaacccc	aagtcganat	60
tggagcagaa	actggagcaa	gaagtggggc	tggggctgaa	gtagagacca	aggccactgc	120

```
tatanccata cacagagcca actctcaggc caaggcnatg gttggggcag anccagagac 180
tcaatctgan tccaaagtgg tggctggaac actggtcatg acanaggcag tgactctgac 240
tgangtc 247
```

<210> 168

<211> 273

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(273)

<223> n = A,T,C or G

<400> 168

```
acttctaagt tttctagaag tggaaggatt gtantcatcc tgaaaatggg tttacttcaa 60
aatccctcan ccttgttctt cactactgtc tatactgana gtgtcatggt tccacaaagg 120
gctgacacct gagcctgnat ttctactcat ccctgagaag ccctttccag taggggtggc 180
aattcccaac ttccttgcca caagcttccc aggcctttctc ccctggaaaa ctccagcttg 240
agtcccgat acactcatgg gctgccctgg gca 273
```

<210> 169

<211> 431

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(431)

<223> n = A,T,C or G

<400> 169

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acagccttgg cttcccaaaa ctccacagtc tcagtgcaga aagatcatct tccagcagtc 60
agctcagacc aggggtcaaag gatgtgacat caacagtttc tggtttcaga acaggttcta 120
ctactgtcaa atgacccccc atacttcctc aaaggctgtg gtaagttttg cacagggtgag 180
ggcagcagaa aggggggtant tactgatgga caccatcttc tctgtatact ccacactgac 240
cttgccatgg gcaaaggccc ctaccacaaa aacaatagga tcaactgctgg gcaccagctc 300
acgcacatca ctgacaaccg ggatggaaaa agaantgcca actttcatac atccaactgg 360
aaagtgatct gatactggat tcttaattac cttcaaaagc ttctgggggc catcagctgc 420
tcgaacactg a 431
```

<210> 170

<211> 266

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(266)

<223> n = A,T,C or G

<400> 170

```
acctgtgggc tgggctgtta tgcctgtgcc ggctgctgaa agggagttca gaggtggagc 60
tcaaggagct ctgcaggcat ttgccaanc ctctccanag canaggggagc aacctacact 120
ccccgctaga aagacaccag attggagtcc tgggaggggg agttgggggtg ggcatttgat 180
```

gtatacttgt cacctgaatg aangagccag agaggaanga gacgaanatg anattggcct 240  
tcaaagctag ggggtctggca ggtgga 266

<210> 171  
<211> 1248  
<212> DNA  
<213> Homo sapien  
  
<220>  
<221> misc\_feature  
<222> (1)...(1248)  
<223> n = A,T,C or G

<400> 171  
ggcagccaaa tcataaacgg cgaggactgc agcccgcact cgcagccctg gcaggcggca 60  
ctgggtcatgg aaaacgaatt gttctgctcg ggcgtcctgg tgcattccgca gtgggtgctg 120  
tcagccgcac actgtttcca gaagtgaatg cagagctcct acaccatcgg gctgggctg 180  
cacagtcttg aggccgacca agagccaggg agccagatgg tggaggccag cctctccgta 240  
cggcaccag agtacaacag acccttgctc gctaacgacc tcatgctcat caagttggac 300  
gaatccgtgt ccgagctga caccatccgg agcatcagca ttgcttcgca gtgccctacc 360  
gcggggaact cttgectcgt ttctggctgg ggtctgctgg cgaacggcag aatgcctacc 420  
gtgctgcagt gcgtgaacgt gtcgggtggg tctgaggagg tctgcagtaa gctctatgac 480  
ccgctgtacc accccagcat gttctgcgcc ggcggagggg aagaccagaa ggactcctgc 540  
aacggtgact ctggggggcc cctgatctgc aacgggtact tgcagggcct tgtgtctttc 600  
ggaaaagccc cgtgtggcca agttggcgtg ccagggtgct acaccaacct ctgcaaattc 660  
actgagtggg tagagaaaac cgtccaggcc agttaactct ggggactggg aacccatgaa 720  
attgaccccc aaatacatcc tgcggaagga attcaggaat atctgttccc agcccctcct 780  
ccctcaggcc caggagtcca ggcggggcag ccctcctccc tcaaaccaag ggtacagatc 840  
cccagccct cctccctcag acccaggagt ccagaccccc cagccctcc tccctcagac 900  
ccaggagtcc agcccctcct ccctcagacc caggagtcca gacccccag cccctcctcc 960  
ctcagaccca ggggtccagg cccccaacct ctctccctc agactcagag gtccaagccc 1020  
ccaaccntc attccccaga cccagagggtc cagggtcccag cccctcntcc ctcagaccca 1080  
gcggtccaat gccacctaga ctntccctgt acacagtgcc cccttggtggc acgttgaccc 1140  
aaccttacca gttggttttt catttttngt ccctttcccc tagatccaga aataaagttt 1200  
aagagaagng caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1248

<210> 172  
<211> 159  
<212> PRT  
<213> Homo sapien  
  
<220>  
<221> VARIANT  
<222> (1)...(159)  
<223> Xaa = Any Amino Acid

<400> 172  
Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro  
1 5 10 15  
Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser  
20 25 30  
Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr  
35 40 45  
Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly  
50 55 60



Arg Met Pro Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu  
 65 70 75 80  
 Glu Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe  
 85 90 95  
 Cys Ala Gly Gly Gly Gln Xaa Gln Xaa Asp Ser Cys Asn Gly Asp Ser  
 100 105 110  
 Gly Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe  
 115 120 125  
 Gly Lys Ala Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn  
 130 135 140  
 Leu Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser  
 145 150 155

<210> 173  
 <211> 1265  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(1265)  
 <223> n = A,T,C or G

<400> 173  
 ggcagcccgc actcgcagcc ctggcaggcg gcactgggtca tggaaaacga attgttctgc 60  
 tcgggctgcc tggtgcatcc gcagtgggtg ctgtcagccg cacactgttt ccagaactcc 120  
 tacaccatcg ggctgggacct gcacagtctt gaggccgacc aagagccagg gagccagatg 180  
 gtggaggcca gectctccgt acggcaccca gactacaaca gacccttgct cgctaacgac 240  
 ctcatgctca tcaagttgga cgaatccgtg tccgagtctg acaccatccg gagcatcagc 300  
 attgcttcgc agtgccttac cgcggggaac tcttgctctg tttctggctg gggctctgctg 360  
 gcgaacgggtg agctcacggg tgtgtgtctg ccctcttcaa ggaggtcctc tgcccagtcg 420  
 cgggggctga cccagagctc tgcgtcccag gcagaatgcc taccgtgctg cagtgcgtga 480  
 acgtgtcggg ggtgtctgag gaggtctgca gtaagctcta tgaccctgctg taccacccca 540  
 gcatgttctg cgccggcgga gggcaagacc agaaggactc ctgcaacggg gactctgggg 600  
 ggcccctgat ctgcaacggg tacttgacag gccttgtgtc tttcggaaaa gcccctgtg 660  
 gccaagttgg cgtgccaggt gtctacacca acctctgcaa attcactgag tggatagaga 720  
 aaaccgtcca ggccagttaa ctctggggac tgggaaccca tgaaattgac ccccaatac 780  
 atcctgcgga aggaattcag gaatatctgt tcccagcccc tcctccctca ggcccaggag 840  
 tccaggcccc cagccctcc tcctcaaac caaggtaca gatccccagc ccctcctccc 900  
 tcagaccag gagtccagac cccccagccc ctctccctc agaccagga gtccagcccc 960  
 tcctccntca gaccaggag tccagacccc ccagcccctc ctccctcaga cccaggggtt 1020  
 gagggcccca accctcctc ctccagagtc agaggtccaa gcccacaacc cctcgttccc 1080  
 cagaccaga ggttnaggtc ccagcccctc ttcntcaga cccagnggtc caatgccacc 1140  
 tagattttcc ctgnacacag tgcccccttg tggngangttg acccaacctt accagttggt 1200  
 ttttcatttt tngtcccttt cccctagatc cagaaataaa gttaagaga ngngcaaaaa 1260  
 aaaaa 1265

<210> 174  
 <211> 1459  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(1459)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 174

ggtcagccgc	acactgtttc	cagaagtgag	tgcagagctc	ctacaccatc	gggctgggcc	60
tgcacagtct	tgaggccgac	caagagccag	ggagccagat	ggaggaggcc	agcctctccg	120
tacggcacc	agagtacaac	agacccttgc	tcgctaacga	cctcatgctc	atcaagttgg	180
acgaatccgt	gtccgagctc	gacaccatcc	ggagcatcag	cattgcttcg	cagtgcccta	240
ccgcggggaa	ctcttgccct	gtttctggct	ggggtctgct	ggcgaacggt	gagctcacgg	300
gtgtgtgtct	gccctcttca	aggaggtcct	ctgcccagtc	gcgggggctg	acccagagct	360
ctgctgcccc	ggcagaatgc	ctaccgtgct	gcagtgcgtg	aacgtgtcgg	tggtgtctga	420
ngaggctctg	antaagctct	atgaccgct	gtaccacccc	ancatgttct	gcgccggcgg	480
agggcaagac	cagaaggact	cctgcaacgt	gagagagggg	aaaggggagg	gcaggcgact	540
cagggaaagg	tggagaaggg	ggagacagag	acacacaggg	ccgcatggcg	agatgcagag	600
atggagagac	acacagggag	acagtgacaa	ctagagagag	aaactgagag	aaacagagaa	660
ataaacacag	gaataaagag	aagcaaagga	agagagaaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcagttga	ccttccaaca	gcatggggcc	tgagggcggt	780
gacctccacc	caatagaaaa	tcctcttata	acttttgact	ccccaaaaac	ctgactagaa	840
atagcctact	gttgacgggg	agccttacca	ataacataaa	tagtcgattt	atgcatacgt	900
tttatgcatt	catgatatac	ctttgttgga	attttttgat	atctctaagc	tacacagttc	960
gtctgtgaat	ttttttaaat	tgttgcaact	ctcctaaaat	ttttctgatg	tgtttattga	1020
aaaaatccaa	gtataagtgg	acttgtgcat	tcaaaccagg	gttgttcaag	ggtcaactgt	1080
gtacccagag	ggaaacagtg	acacagattc	atagaggtga	aacacgaaga	gaaacaggaa	1140
aaatcaagac	tctacaaaga	ggctgggcag	ggagggtcat	gcctgtaatc	ccagcacttt	1200
gggaggcgag	gcaggcagat	cacttgaggt	aaggagttca	agaccagcct	ggccaaaatg	1260
gtgaaatcct	gtctgtacta	aaaatacaaa	agttagctgg	atatggtggc	aggcgctgt	1320
aatcccgct	acttgaggag	ctgaggcagg	agaattgctt	gaatatggga	ggcagaggtt	1380
gaagtgaagt	gagatcacac	cactatactc	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaaa	aaaaaaaaa					1459

&lt;210&gt; 175

&lt;211&gt; 1167

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (1167)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 175

gcgcagccct	ggcaggcggc	actgggtcatg	gaaaacgaat	tgttctgctc	gggcgtcctg	60
gtgcatccgc	agtgggtgct	gtcagccgca	cactgtttcc	agaactccta	caccatcggg	120
ctgggcctgc	acagtcttga	ggccgaccaa	gagccaggga	gccagatggt	ggaggccagc	180
ctctccgtac	ggcacccaga	gtacaacaga	ctcttgctcg	ctaacgacct	catgctcatc	240
aagttggacg	aatccgtgtc	cgagtctgac	accatccgga	gcatacagcat	tgcttcgcag	300
tgccttaccg	cggggaactc	ttgcctcgtn	tctggctggg	gtctgctggc	gaacggcaga	360
atgcctaccg	tgctgcactg	cgtgaacgtg	tgggtgggtg	ctgaggangt	ctgcagtaag	420
ctctatgacc	cgctgtacca	ccccagcatg	ttctgcgccg	gcggaggggca	agaccagaag	480
gactcctgca	acggtgactc	tgggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtctttcg	gaaaagcccc	gtgtggccaa	cttggcgtgc	caggtgtcta	caccaacctc	600
tgcaaattca	ctgagtggat	agagaaaacc	gtccagncca	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccca	aatacatcct	gcggaangaa	ttcaggaata	tctgttccca	720
gccccctctc	cctcaggccc	aggagtccag	gccccagcc	cctcctccct	caaaccaagg	780
gtacagatcc	ccagcccctc	ctccctcaga	cccaggagtc	cagaccccc	agccccctnt	840
cctcagacc	caggagtcca	gccccctctc	cntcagacgc	aggagtccag	accccccagc	900

```

ccntcntccg tcagacccag ggggtgcaggc ccccaacccc tcntccntca gagtcagagg      960
tccaagcccc caaccctcg ttccccagac ccagaggtnc aggtcccagc cctcctccc      1020
tcagacccag cgggtccaatg ccacctagan tntccctgta cacagtgcc ccttggtggca      1080
ngttgaccca accttaccag ttgggtttttc attttttgtc cctttcccct agatccagaa      1140
ataaagtnta agagaagcgc aaaaaaa      1167

```

&lt;210&gt; 176

&lt;211&gt; 205

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (1)...(205)

&lt;223&gt; Xaa = Any Amino Acid

&lt;400&gt; 176

```

Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1          5          10          15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20          25          30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35          40          45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu
 50          55          60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65          70          75          80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85          90          95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met
100          105          110
Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val
115          120          125
Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala
130          135          140
Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly
145          150          155          160
Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys
165          170          175
Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys
180          185          190
Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser
195          200          205

```

&lt;210&gt; 177

&lt;211&gt; 1119

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 177

```

gcgcactcgc agccctggca ggcggcactg gtcattggaaa acgaattggt ctgctcgggc      60
gtcctgggtgc atccgcagtg ggtgctgtca gccgcacact gtttcagaaa ctctacacc      120
atcgggctgg gcctgcacag tcttgaggcc gaccaagagc cagggagcca gatgggtggag      180
gccagcctct ccgtacggca cccagagtac aacagaccct tgctcgctaa cgacctcatg      240
ctcatcaagt tggacgaatc cgtgtccgag tctgacacca tccggagcat cagcattgct      300

```

tgcagtgcc	ctaccgcggg	gaactcttgc	ctcgtttctg	gctgggggtct	gctggcggaac	360
gatgctgtga	ttgccatcca	gtcccagact	gtgggaggct	gggagtgtga	gaagctttcc	420
caaccctggc	agggttgtag	catttcggca	acttccagtg	caaggacgtc	ctgctgcatc	480
ctcactgggt	gctcactact	gctcactgca	tcacccgga	cactgtgatc	aactagccag	540
caccatagtt	ctccgaagtc	agactatcat	gattactgtg	ttgactgtgc	tgtctattgt	600
actaaccatg	ccgatgttta	ggtgaaatta	gcgtcacttg	gcctcaacca	tcttggtatc	660
cagttatcct	caactgaattg	agatttcctg	cttcagtgtc	agccattccc	acataatttc	720
tgacctacag	agggtgagga	tcatatagct	cttcaaggat	gctgggtactc	ccctcacaaa	780
ttcatttctc	ctgttgtagt	gaaagggtgcg	ccctctggag	cctcccaggg	tgggtgtgca	840
ggtcacaatg	atgaatgtat	gatcgtgttc	ccattaccca	aagccttta	atccctcatg	900
ctcagtacac	cagggcaggt	ctagcatttc	ttcatttagt	gtatgctgtc	cattcatgca	960
accacctcag	gactcctgga	ttctctgcct	agttgagctc	ctgcatgctg	cctccttggg	1020
gaggtgaggg	agagggccca	tggttcaatg	ggatctgtgc	agttgtaaca	cattaggtgc	1080
ttaataaaca	gaagctgtga	tgtaaaaaa	aaaaaaaaa			1119

&lt;210&gt; 178

&lt;211&gt; 164

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (1)...(164)

&lt;223&gt; Xaa = Any Amino Acid

&lt;400&gt; 178

Met	Glu	Asn	Glu	Leu	Phe	Cys	Ser	Gly	Val	Leu	Val	His	Pro	Gln	Trp
1				5					10					15	
Val	Leu	Ser	Ala	Ala	His	Cys	Phe	Gln	Asn	Ser	Tyr	Thr	Ile	Gly	Leu
			20					25					30		
Gly	Leu	His	Ser	Leu	Glu	Ala	Asp	Gln	Glu	Pro	Gly	Ser	Gln	Met	Val
		35				40					45				
Glu	Ala	Ser	Leu	Ser	Val	Arg	His	Pro	Glu	Tyr	Asn	Arg	Pro	Leu	Leu
	50				55				60						
Ala	Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asp	Glu	Ser	Val	Ser	Glu	Ser
65				70				75						80	
Asp	Thr	Ile	Arg	Ser	Ile	Ser	Ile	Ala	Ser	Gln	Cys	Pro	Thr	Ala	Gly
			85					90					95		
Asn	Ser	Cys	Leu	Val	Ser	Gly	Trp	Gly	Leu	Leu	Ala	Asn	Asp	Ala	Val
			100				105					110			
Ile	Ala	Ile	Gln	Ser	Xaa	Thr	Val	Gly	Gly	Trp	Glu	Cys	Glu	Lys	Leu
		115				120					125				
Ser	Gln	Pro	Trp	Gln	Gly	Cys	Thr	Ile	Ser	Ala	Thr	Ser	Ser	Ala	Arg
	130				135					140					
Thr	Ser	Cys	Cys	Ile	Leu	Thr	Gly	Cys	Ser	Leu	Leu	Leu	Thr	Ala	Ser
145				150					155					160	
Pro	Gly	Thr	Leu												

&lt;210&gt; 179

&lt;211&gt; 250

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 179

```

ctggagtgcc ttggtgtttc aagcccctgc aggaagcaga atgcaccttc tgaggcacct      60
ccagctgccc ccggccgggg gatgcgaggc tcggagcacc cttgcccggc tgtgattgct      120
gccaggcact gttcatctca gcttttctgt ccctttgctc ccggcaagcg cttctgctga      180
aagttcatat ctggagcctg atgtcttaac gaataaaggc cccatgctcc acccgaaaaa      240
aaaaaaaaaa                                     250

```

&lt;210&gt; 180

&lt;211&gt; 202

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 180

```

actagtccag tgtggtggaa ttccattgtg ttggggcccaa cacaatggct acctttaaca      60
tcacccagac cccgcccctg cccgtgcccc acgtgctgct taacgacagt atgatgctta      120
ctctgctact cggaaactat ttttatgtaa ttaatgtatg ctttcttggt tataaatgcc      180
tgatttaaaa aaaaaaaaaa aa                                     202

```

&lt;210&gt; 181

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (558)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 181

```

tccytttght naggtttkkg agacamccck agacctwaan ctgtgtcaca gacttcynng      60
aatgtttagg cagtgttagt aatttcytcg taatgattct gttattactt tctnattct      120
ttattcctct ttcttctgaa gattaatgaa gttgaaaatt gaggtggata aatacaaaaa      180
ggtagtgtga tagtataagt atctaagtcg agatgaaagt gtgttatata tatccattca      240
aaattatgca agttagtaat tactcagggt taactaaatt actttaatat gctgttgaac      300
ctactctgtt ccttggctag aaaaaattat aaacaggact ttgttagttt gggaagccaa      360
attgataata ttctatgttc taaaagttgg gctatacata aattattaag aaatatggaw      420
ttttattccc aggaatatgg kgttcatttt atgaatatta cscrggatag awgtwtgagt      480
aaaaycagtt ttggtwaata ygtwaatatg tcmtaaataa acaakgcttt gacttatttc      540
caaaaaaaaa aaaaaaaaaa                                     558

```

&lt;210&gt; 182

&lt;211&gt; 479

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (479)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 182

```

acagggwttk grggatgcta agsccccrga rwtggtttga tccaaccctg gcttwttttc      60
agaggggaaa atggggccta gaagttacag mscatytagy tgggtgcgmg gcacccctgg      120
cstcacacag astcccagat agctgggact acaggcacac agtcaactgaa gcaggccctg      180
ttwgcaattc acgttgccac ctccaactta aacattcttc atatgtgatg tccttagtca      240
ctaaggttaa actttccac ccagaaaagg caacttagat aaaatcttag agtactttca      300

```

tactmttcta agtcctcttc cagcctcact kkgagtcctm cytggggggt gataggaant 360  
 ntctcttggc tttctcaata aartctctat ycatctcatg ttttaatttg tacgcatara 420  
 awtgstgara aaattaaaat gttctgggty macttttaaaa araaaaaaaa aaaaaaaaaa 479

<210> 183

<211> 384

<212> DNA

<213> Homo sapien

<400> 183

aggcgggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactgggtgcc 60  
 agtaccagta ccaataacag tgccagtgcc agtgccagca ccagtgggtg cttcagtgtc 120  
 ggtgccagcc tgaccgccac tctcacattt gggctcttcg ctggccttgg tggagctggg 180  
 gccagcacca gtggcagctc tgggtgcctgt ggtttctcct acaagtgaga ttttagatat 240  
 tgtaatcct gccagtcttt ctcttcaagc caggggtgcat cctcagaaac ctactcaaca 300  
 cagcactcta ggcagccact atcaatcaat tgaagttgac actctgcatt aratctattt 360  
 gccatttcaa aaaaaaaaaa aaaa 384

<210> 184

<211> 496

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(496)

<223> n = A,T,C or G

<400> 184

accgaattgg gaccgctggc ttataagcga tcatgtyynt ccrgtatkac ctcaacgagc 60  
 agggagatcg agtctatacg ctgaagaaat ttgacccgat gggacaacag acctgtctcg 120  
 cccatcctgc tcggttctcc ccagatgaca aatactctsg acaccgaatc accatcaaga 180  
 aacgcttcaa ggtgctcatg accagcaac cgcgcctgt cctctgaggg tcccttaaac 240  
 tgatgtcttt tctgccacct gttacccctc ggagactccg taaccaaact cttcggactg 300  
 tgagccctga tgcctttttg ccagccatac tctttggcat ccagtctctc gtggcgattg 360  
 attatgcttg tgtgaggcaa tcatgggtggc atcaccata aagggaacac atttgacttt 420  
 tttttctcat attttaaatt actacmagaw tattwmagaw waaatgawtt gaaaaactst 480  
 taaaaaaaaa aaaaaa 496

<210> 185

<211> 384

<212> DNA

<213> Homo sapien

<400> 185

gctggtagcc tatggcgkgg cccacggagg ggctcctgag gccacggrac agtgacttcc 60  
 caagtatcyt gcgcsgcgtc ttctaccgtc cctacctgca gatcttcggg cagattcccc 120  
 aggaggacat ggacgtggcc ctcatggagc acagcaactg ytcgtcggag cccggcttct 180  
 gggcacacc tctgggggcc caggcgggca cctgcgtctc ccagtatgcc aactggctgg 240  
 tgggtgctgt cctcgtcatc ttctgctcgt tggccaacat cctgctgggt aacttgctca 300  
 ttgccatgtt cagttacaca ttcggcaaaag tacagggcaa cagegatctc tactgggaag 360  
 gcgcagcgtt accgctcat ccgg 384

<210> 186

<211> 577

&lt;212&gt; DNA

&lt;213&gt; Homo sapien.

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (577)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 186

gagttagctc	ctccacaacc	ttgatgaggt	cgtctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgtc	atactgtagg	tttgccacca	cytcctggca	tcttggggcg	gcntaatatt	120
ccaggaaact	ctcaatcaag	tcaccgtcga	tgaaacctgt	gggctgggtc	tgtcttccgc	180
tcgggtgtgaa	aggatctccc	agaaggagtg	ctcgatcttc	cccacacttt	tgatgacttt	240
attgagtcga	ttctgcatgt	ccagcaggag	gttgtaggag	ctctctgaca	gtgaggtcac	300
cagccctatc	atgccgttga	mcgtgccgaa	garcaccgag	ccttgtgtgg	gggkkgaggt	360
ctcaccacga	ttctgcatta	ccagagagcc	gtggcaaaag	acattgacaa	actcgcccag	420
gtggaaaaag	amcamctcct	ggargtgctn	gccgtccttc	gtcmgttggt	ggcagcgctw	480
tccttttgac	acacaaacaa	gttaaaggca	ttttcagccc	ccagaaantt	gtcatcatcc	540
aagatntcgc	acagcactna	tccagttggg	attaaat			577

&lt;210&gt; 187

&lt;211&gt; 534

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (534)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 187

aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgstg	agaatycatw	60
actkggaaaa	gmaacattaa	agcctggaca	ctgggtattaa	aattcacaaat	atgcaacact	120
ttaaacagtg	tgtcaatctg	ctcccyynac	tttgtcatca	ccagtctggg	aakaagggtta	180
tgccctattc	acacctgtta	aaagggcgct	aagcattttt	gattcaacat	cttttttttt	240
gacacaagtc	cgaaaaaagc	aaaagtaaac	agttatyaat	ttgttagcca	attcactttc	300
ttcatgggac	agagccatyt	gatttaaaaa	gcaaattgca	taatattgag	cttygggagc	360
tgatatttga	gcggaagagt	agccttttcta	cttcaccaga	cacaactccc	tttcatattg	420
ggatgttnac	naaagtwatg	tctctwacag	atgggatgct	tttgtggcaa	ttctgttctg	480
aggatctccc	agtttattta	ccacttgcac	aagaaggcgt	tttcttcctc	aggc	534

&lt;210&gt; 188

&lt;211&gt; 761

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (761)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 188

agaaaccagt	atctctnaaa	acaacctctc	ataccttggtg	gacctaat	ttgtgtgcgtg	60
tgtgtgtgcg	cgcatattat	atagacaggc	acatcttttt	tacttttgta	aaagcttatg	120
cctcttttgg	atctatatct	gtgaaagttt	taatgatctg	ccataatgtc	ttggggacct	180

ttgtcttctg	tgtaaattggt	actagagaaa	acacctatnt	tatgagtcaa	tctagttngt	240
tttattcgac	atgaaggaaa	tttccagatn	acaacactna	caaactctcc	ctkgackarg	300
ggggacaaag	aaaagcaaaa	ctgamcataa	raaacaatwa	cctgggtgaga	arttgcataa	360
acagaaatwr	ggtagtatat	tgaarnacag	catcattaaa	rmgttwtkt	wtctccctt	420
gcaaaaaaca	tgtacngact	tcccgttgag	taatgccaag	ttgttttttt	tatnataaaa	480
cttgcccttc	attacatggt	tnaaagtggg	gtgggtgggcc	aaaatattga	aatgatggaa	540
ctgactgata	aagctgtaca	aataagcagt	gtgcctaaca	agcaacacag	taatgttgac	600
atgcttaatt	cacaaatgct	aatttcatta	taaatgtttg	ctaaaataca	ctttgaacta	660
tttttctgtn	ttcccagagc	tgagatntta	gattttatgt	agtatnaagt	gaaaaantac	720
gaaaataata	acattgaaga	aaananaaaa	aaanaaaaaa	a		761

&lt;210&gt; 189

&lt;211&gt; 482

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (482)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 189

tttttttttt	tttgccgatn	ctactatntt	attgcaggan	gtgggggtgt	atgcaccgca	60
caccggggct	atnagaagca	agaaggaagg	agggagggca	cagccccttg	ctgagcaaca	120
aagccgcctg	ctgccttctc	tgtctgtctc	ctgggtgcagg	cacatgggga	gaccttcccc	180
aaggcagggg	ccaccagtcc	aggggtggga	atacaggggg	tgggangtgt	gcataagaag	240
tgataggcac	aggccacccg	gtacagaccc	ctcggctcct	gacaggtnga	tttcgaccag	300
gtcattgtgc	cctgcccagg	cacagcgtn	atctggaaaa	gacagaatgc	tttccttttc	360
aaatttggct	ngtcatngaa	ngggcanttt	tccaanttn	gctnggtcct	ggtacncttg	420
gttcggccca	gtccncgtc	caaaaantat	tcaccennct	ccnaattgct	tgcnggnccc	480
cc						482

&lt;210&gt; 190

&lt;211&gt; 471

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (471)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 190

tttttttttt	ttttaaaaca	gtttttcaca	acaaaattta	ttagaagaat	agtggttttg	60
aaaactctcg	catccagtga	gaactaccat	acaccacatt	acagctngga	atgtnctcca	120
aatgtctggt	caaatgatac	aatggaacca	ttcaatctta	cacatgcacg	aaagaacaag	180
cgcttttgac	atacaatgca	caaaaaaaaa	aggggggggg	gaccacatgg	attaaaattt	240
taagtactca	tcacatacat	taagacacag	ttctagtcca	gtcnaaaatc	agaactgcnt	300
tgaaaaattt	catgtatgca	atccaaccaa	agaacttnat	tggatgatcat	gantnctcta	360
ctacatcnac	cttgatcatt	gccaggaaacn	aaaagttnaa	ancacncngt	acaaaaanaa	420
tctgtaattn	anttcaacct	ccgtacngaa	aaatnttnt	tatacactcc	c	471

&lt;210&gt; 191

&lt;211&gt; 402

&lt;212&gt; DNA



<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(402)

<223> n = A,T,C or G

<400> 191

gagggattga aggtctgttc tastgtcggm ctgttcagcc accaactcta acaagttgct	60
gtcttccact cactgtctgt aagcttttta acccagacwg tatcttcata aatagaacaa	120
attcttcacc agtcacatct tctaggacct ttttggattc agttagtata agctcttcca	180
cttcctttgt taagacttca tctggtaaag tcttaagttt tgtagaaagg aattyaattg	240
ctcgttctct aacaatgtcc tctccttgaa gtatttggtt gaacaaccca cctaaagtcc	300
ctttgtgcat ccattttaaa tatacttaat agggcattgk tncactaggt taaattctgc	360
aagagtcacg tgtctgcaaa agttgcgtta gtatatctgc ca	402

<210> 192

<211> 601

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(601)

<223> n = A,T,C or G

<400> 192

gagctcggat ccaataatct ttgtctgagg gcagcacaca tatncagtgc catggnaact	60
ggctctacccc acatgggagc agcatgccgt agntatataa ggctattccc tgagtcagac	120
atgcytyttt gaytaccgtg tgccaagtgc tgggtgattct yaacacacyt ccatcccggt	180
cttttgtgga aaaactggca cttktctgga actagcarga catcacttac aaattcacc	240
acgagacact tgaaagggtg aacaaagcga yctttgcatt gctttttgtc cctccggcac	300
cagttgtcaa tactaaccgc ctggtttgcc tccatcacat ttgtgatctg tagctctgga	360
tacatctcct gacagtactg aagaacttct tcttttggtt caaaagcarg tcttggtgcc	420
tgttggatca ggttcccatt tcccagtcyg aatgttcaca tggcatattt wacttcccac	480
aaaacattgc gatttgaggc tcagcaacag caaatcctgt tccggcattg gctgcaagag	540
cctcgatgta gccggccagc gccaaaggcag gcgccgtgag cccaccagc agcagaagca	600
g	601

<210> 193

<211> 608

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(608)

<223> n = A,T,C or G

<400> 193

atacagccca natccacca cgaagatgcg cttgttgact gagaacctga tgcggtcact	60
ggctcccgctg tagccccagc gactctccac ctgctggaag cggttgatgc tgcactcytt	120
cccaacgcag gcagmagcgg gscgggtcaa tgaactccay tctgtggctg gggtkgacgg	180
tkaagtgcag gaagaggctg accacctcgc ggtccaccag gatgcccgac tgtgcgggac	240
ctgcagcgaa actcctcgat ggtcatgagc gggaaagcgaa tgaggcccag ggccttgccc	300

```

agaaccttcc gctgtttctc tggcgctcacc tgcagctgct gccgctgaca ctgggcctcg      360
gaccagcgga caaacggcrt tgaacagccg cacctcacgg atgcccagtg tgtcgcgctc      420
caggammgsc accagcgtgt ccagggtcaat gtcgggtgaag ccctccgcgg gtrattggcgt      480
ctgcagtgtt tttgtcgatg ttctccaggc acaggctggc cagctgcggt tcacgaaga      540
gtcgcgcctg cgtgagcagc atgaaggcgt tgtcggctcg cagttcttct tcaggaactc      600
cacgcaat                                         608

```

&lt;210&gt; 194

&lt;211&gt; 392

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(392)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 194

```

gaacggctgg accttgccct gcattgtgct tgctggcagg gaataccttg gcaagcagyt      60
ccagtcgag cagccccaga ccgctgccgc ccgaagctaa gcctgcctct ggccttcccc      120
tccgctcaa tgcagaacca gtagtgggag cactgtgttt agagttaaga gtgaacactg      180
tttgatttta ctgggaatt tctctgttta tatagctttt cccaatgcta atttccaaac      240
aacaacaaca aaataacatg tttgcctgtt aagttgtata aaagtaggtg attctgtatt      300
taaagaaaat attactgtta catatactgc ttgcaatttc tgtatttatt gktnctstgg      360
aaataaatat agttattaaa ggttgtcant cc                                         392

```

&lt;210&gt; 195

&lt;211&gt; 502

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(502)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 195

```

ccsttkgagg ggtkaggkyc cagttyccga gtggaagaaa caggccagga gaagtgcgtg      60
ccgagctgag gcagatgttc ccacagtgc cccagagacc stgggstata gtytctgacc      120
cctcncaagg aaagaccacs ttctggggac atgggctgga gggcaggacc tagaggcacc      180
aaggggaagg cccattccgg ggstgttccc cgaggaggaa ggggaaggggc tctgtgtgcc      240
ccccasgagg aagaggccct gagtccctgg atcagacacc ctttcacgtg tatccccaca      300
caaatgcaag ctcaccaagg tcccctetca gtccccttcc stacacctg amcggccact      360
gscscacacc cccccagagc acgccaccgc ccatggggar tgtgctcaag gartcgcngg      420
gcarcgtgga catctngtcc cagaaggggg cagaatctcc aatagangga ctgarcmtt      480
gctnanaaaa aaaaanaaaa aa                                         502

```

&lt;210&gt; 196

&lt;211&gt; 665

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(665)

<223> n = A,T,C or G

<400> 196

ggttacttgg	tttcattgcc	accacttagt	ggatgtcatt	tagaaccatt	ttgtctgctc	60
cctctggaag	ccttgcgag	agcggacttt	gtaattgttg	gagaataact	gctgaatttt	120
wagctgtttk	gagttgatts	gcaccactgc	accacaact	tcaatatgaa	aacyawttga	180
actwatttat	tatcttgtga	aaagtataac	aatgaaaatt	ttgttcatac	tgtattkac	240
aagtatgatg	aaaagcaawa	gatatatatt	cttttattat	gttaaattat	gattgccatt	300
attaatcggc	aaaatgtgga	gtgtatgttc	ttttcacagt	aatatatgcc	ttttgtaact	360
tcacttggtt	attttattgt	aaatgarta	caaaattctt	aatttaagar	aatggatgt	420
watatttatt	tcattaattt	ctttcctkgt	ttacgtwaat	tttgaaaaga	wtgcatgatt	480
tccttgacaga	aatcgatctt	gatgctgtgg	aagtagtttg	accacatcc	ctatgagttt	540
ttcttagaat	gtataaagg	tgtagcccat	cnaacttcaa	agaaaaaat	gaccacatac	600
tttgaatca	ggctgaaatg	tggcatgctn	ttctaattcc	aactttataa	actagcaaan	660
aagtg						665

<210> 197

<211> 492

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (492)

<223> n = A,T,C or G

<400> 197

ttttnttttt	tttttttgc	aggaaggatt	ccattttattg	tggatgcatt	ttcacaatat	60
atgtttattg	gagcgatcca	ttatcagtga	aaagtatcaa	gtgtttataa	natttttagg	120
aaggcagatt	cacagaacat	gctngtcngc	ttgcagtttt	acctcgtana	gatnacagag	180
aattatagtc	naaccagtaa	acnaggaatt	tacttttcaa	aagattaaat	ccaaactgaa	240
caaaattcta	ccctgaaact	tactccatcc	aaatattgga	ataanagtca	gcagtatac	300
attctcttct	gaactttaga	ttttctagaa	aaatatgtaa	tagtgatcag	gaagagctct	360
tgttcaaaaag	tacaacnaag	caatgttccc	ttaccatagg	ccttaattca	aactttgatc	420
catttcactc	ccatcacggg	agtcaatgct	acctgggaca	cttgtatttt	gttcatnctg	480
ancntggctt	aa					492

<210> 198

<211> 478

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (478)

<223> n = A,T,C or G

<400> 198

ttntttttgn	atttcantct	gtannaanta	ttttcattat	gtttattana	aaaatatnaa	60
tgtntccacn	acaaatcatn	ttacntnagt	aagaggccan	ctacattgta	caacatacac	120
tgagtatatt	ttgaaaagga	caagtttaaa	gtanacncat	attgccganc	atancacatt	180
tatacatggc	ttgattgata	tttagcacag	canaaactga	gtgagttacc	agaaanaaat	240
natatatgtc	aatcngattt	aagatacaaa	acagatccta	tggtacatan	catcntgtag	300
gagttgtggc	tttatgttta	ctgaaagtca	atgcagttcc	tgtacaaaga	gatggccgta	360
agcattctag	tacctctact	ccatgggttaa	gaatcgta	cttatgttta	catatgtnc	420

gggtaagaat tgtgttaagt naanttatgg agagggtccan gagaaaaatt tgatncaa 478

<210> 199

<211> 482

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(482)

<223> n = A,T,C or G

<400> 199

agtgacttgt cctccaacaa aaccccttga tcaagtttgt ggcactgaca atcagaccta	60
tgctagtccc tgcctcttat tcgctactaa atgcagactg gaggggacca aaaaggggca	120
tcaactccag ctggattatt ttggagcctg caaatctatt cctacttgta cggactttga	180
agtgattcag tttcctctac ggatgagaga ctgggtcaag aatatacctca tgcagcttta	240
tgaagccnac tctgaacacg ctggttatct nagatgagaa ncagagaaat aaagtcnaga	300
aaatttacct ggangaaaag aggctttngg ctggggacca tcccattgaa ccttctctta	360
anggacttta agaanaaact accacatgtn tgtngtatcc tgggtgccngg ccgtttantg	420
aacntngacn ncacccttnt ggaatanant cttgacngcn tcctgaactt gtcctctgc	480
ga.	482

<210> 200

<211> 270

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(270)

<223> n = A,T,C or G

<400> 200

cggccgcaag tgcaactcca gctggggccg tgcggacgaa gattctgcca gcagttgggc	60
cgactgcgac gacggcgccg gcgacagtcg caggtgcagc gcgggcccct ggggtcttgc	120
aaggctgagc tgacgccgca gaggtcgtgt cacgtcccac gaccttgacg ccgtcgggga	180
cagccggaac agagcccggg gaangcggga ggcctcgggg agcccctcgg gaagggcggc	240
ccgagagata cgcaggtgca ggtggccgcc	270

<210> 201

<211> 419

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(419)

<223> n = A,T,C or G

<400> 201

tttttttttt ttttggaaac tactgcgagc acagcaggtc agcaacaagt ttattttgca	60
gctagcaagg taacagggtta gggcatgggt acatgttcag gtcaacttcc tttgtcgtgg	120
ttgattgggt tgtctttatg ggggccccgg ggggtagggg aaancgaagc anaantaaca	180
tggagtgggt gcaccctccc tgtagaacct gggtacnaaa gcttggggca gttcacctgg	240

tctgtgaccg	tcattttctt	gacatcaatg	ttattagaag	tcaggatata	ttttagagag	300
tccactgtnt	ctggagggag	attaggggtt	cttgccaana	tccaancaaa	atccacntga	360
aaaagttgga	tgatncangt	acngaatacc	ganggcatan	ttctcatant	cggtggcca	419

<210> 202  
 <211> 509  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (509)  
 <223> n = A,T,C or G

<400> 202						
tttntttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tggcacttaa	tccattttta	tttcaaaatg	tctacaaant	ttnaatncnc	cattatacng	120
gtnattttnc	aaaatctaaa	nntttattca	atntnagcca	aantccttac	ncaaatnnaa	180
tacnncnaaa	aatcaaaaaat	atacntntct	ttcagcaaac	ttngttacat	aaattaaaaa	240
aatatatacg	gctgggtgtt	tcaaagtaca	attatcttaa	cactgcaaac	atnttttnaa	300
ggaactaaaa	taaaaaaaaa	cactnccgca	aagggttaaag	ggaacaacaa	attcntttta	360
caacancnnc	nattataaaa	atcataatct	aaatcttagg	ggaatatata	cttcacacng	420
ggatcttaac	ttttactnca	ctttgtttat	ttttttanaa	ccattgtntt	gggccaaca	480
caatggnaat	ncnccncnc	tggtactagt				509

<210> 203  
 <211> 583  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (583)  
 <223> n = A,T,C or G

<400> 203						
tttttttttt	ttttttttga	ccccctctt	ataaaaaaca	agttaccatt	ttattttact	60
tacacatatt	tattttataa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttaga	tacataattc	ttaggaatta	gcttaaaatc	tgccataaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgact	cttgtaaaac	atccaaattc	240
atttttcttg	tctttaaaat	tatctaattc	ttccattttt	tccctattcc	aagtcaattt	300
gcttctctag	cctcatttcc	tagctcttat	ctactattag	taagtggctt	ttttcctaaa	360
agggaaaaca	ggaagagana	atggcacaca	aaacaaacat	tttatattca	tatttctacc	420
tacgttaata	aaatagcatt	ttgtgaagcc	agctcaaaag	aaggcttaga	tccttttatg	480
tccatttttag	tcactaaacg	atatacnaag	tgccagaatg	caaaagggtt	gtgaacattt	540
attcaaaagc	taatataaga	tatttcacat	actcatcttt	ctg		583

<210> 204  
 <211> 589  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (589)

<223> n = A,T,C or G

<400> 204

ttttttttnt	tttttttttt	tttttttntc	ttcttttttt	ttganaatga	ggatcgagtt	60
tttcactctc	tagatagggc	atgaagaaaa	ctcatctttc	cagcttttaa	ataacaatca	120
aatctcttat	gctatatcat	attttaagtt	aaactaatga	gtcactggct	tatcttctcc	180
tgaaggaaat	ctgttcattc	ttctcattca	tatagttata	tcaagtacta	ccttgcatat	240
tgagaggttt	ttcttctcta	tttacacata	tatttccatg	tgaatttgta	tcaaaccttt	300
attttcatgc	aaactagaaa	ataatgtntt	cttttgcata	agagaagaga	acaatatnag	360
cattacaaaa	ctgctcaaat	tgtttgtaa	gnttatccat	tataattagt	tnggcaggag	420
ctaatacaaa	tcacatttac	ngacnagcaa	taataaaact	gaagtaccag	ttaaatatcc	480
aaaataatta	aaggaacatt	tttagcctgg	gtataattag	ctaattcact	ttacaagcat	540
ttattnagaa	tgaattcaca	tgttattatt	ccntagccca	acacaatgg		589

<210> 205

<211> 545

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(545)

<223> n = A,T,C or G

<400> 205

tttttntttt	ttttttcagt	aataatcaga	acaatattta	tttttatatt	taaaattcat	60
agaaaagtgc	cttacattta	ataaaagttt	gtttctcaaa	gtgatcagag	gaattagata	120
tngtcttgaa	caccaatatt	aatttgagga	aaatacacca	aaatacatta	agtaaattat	180
ttaagatcat	agagcttgta	agtgaagaa	taaaatttga	cctcagaaac	tctgagcatt	240
aaaaatccac	tattagcaaa	taaattacta	tggacttctt	gctttaattt	tgtgatgaat	300
atgggggtgc	actggtaaac	caacacattc	tgaaggatac	attacttagt	gatagattct	360
tatgtacttt	gctanatnac	gtggatatga	gttgacaagt	ttctctttct	tcaatctttt	420
aaggggcnga	ngaaatgagg	aagaaaagaa	aaggattacg	catactgttc	tttctatngg	480
aaggattaga	tatgtttcct	ttgccaatat	taaaaaata	ataatgttta	ctactagtga	540
aacc						545

<210> 206

<211> 487

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(487)

<223> n = A,T,C or G

<400> 206

tttttttttt	ttttttagtc	aagtttctna	tttttattat	aattaaagtc	ttgggtcattt	60
catttattag	ctctgcaact	tacatattta	aattaaagaa	acgttnttag	acaactgtna	120
caatttataa	atgtaagggtg	ccattattga	gtanatatat	tcctccaaga	gtggatgtgt	180
cccttctccc	accaactaat	gaancagcaa	cattagttta	attttattag	tagatnatac	240
actgctgcaa	acgctaattc	tcttctccat	ccccatgtng	atattgtgta	tatgtgtgag	300
ttggtnagaa	tgcatcanca	atctnacaat	caacagcaag	atgaagctag	gcntgggctt	360
tcggtgaaaa	tagactgtgt	ctgtctgaat	caaatagatct	gacctatcct	cgggtggcaag	420
aactcttcga	accgcttcct	caaaggcngc	tgccacattt	gtggcctctn	ttgcacttgt	480

ttcaaaa

487

&lt;210&gt; 207

&lt;211&gt; 332

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(332)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 207

tgaattggct	aaaagactgc	atttttanaa	ctagcaactc	ttatttcttt	cctttaaaaa	60
tacatagcat	taaatcccaa	atcctattta	aagacctgac	agcttgagaa	ggtcactact	120
gcatttatag	gaccttctgg	tggttctgct	gttacntttg	aantctgaca	atccttgana	180
atctttgcat	gcagaggagg	taaaaggtat	tggattttca	cagaggaana	acacagcgca	240
gaaatgaagg	ggccaggcct	actgagcttg	tccactggag	ggctcatggg	tgggacatgg	300
aaaagaaggc	agcctaggcc	ctggggagcc	ca			332

&lt;210&gt; 208

&lt;211&gt; 524

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(524)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 208

agggcgtggt	gcgaggggcg	ttactgtttt	gtctcagtaa	caataaatac	aaaaagactg	60
gttgtgttcc	ggccccatcc	aaccacgaag	ttgatttctc	ttgtgtgcag	agtgactgat	120
tttaaaggac	atggagcttg	tcacaatgtc	acaatgtcac	agtgtgaagg	gcacactcac	180
tcccgctga	ttcacattta	gcaaccaaca	atagctcatg	agtccatact	tgtaaatact	240
tttggcagaa	tacttnttga	aacttgcaga	tgataactaa	gatccaagat	atttcccaa	300
gtaaatagaa	gtgggtcata	atattaatta	cctgttcaca	tcagcttcca	tttacaagtc	360
atgagcccag	acactgacat	caaactaagc	ccacttagac	tcctcaccac	cagtctgtcc	420
tgtcatcaga	caggaggctg	tcaccttgac	caaattctca	ccagtcaatc	atctatccaa	480
aaaccattac	ctgatccact	tccggtaatg	caccaccttg	gtga		524

&lt;210&gt; 209

&lt;211&gt; 159

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 209

gggtgaggaa	atccagagtt	gccatggaga	aaattccagt	gtcagcattc	ttgctccttg	60
tggccctctc	ctacactctg	gccagagata	ccacagtcaa	acctggagcc	aaaaaggaca	120
caaaggactc	tcgacccaaa	ctgccccaga	ccctctcca			159

&lt;210&gt; 210

&lt;211&gt; 256

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(256)  
 <223> n = A,T,C or G

<400> 210  
 actccctggc agacaaaggc agaggagaga gctctgttag ttctgtgttg ttgaactgcc 60  
 actgaatttc tttccacttg gactattaca tgccanttga gggactaatg gaaaaacgta 120  
 tggggagatt ttanccaatt tangtntgta aatggggaga ctggggcagg cgggagagat 180  
 ttgcagggtg naaatgggan ggctggtttg ttanatgaac agggacatag gaggtaggca 240  
 ccaggatgct aatatca 256

<210> 211  
 <211> 264  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(264)  
 <223> n = A,T,C or G

<400> 211  
 acattgtttt tttgagataa agcattgaga gagctctcct taactgtgaca caatggaagg 60  
 actggaacac atacccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt 120  
 atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gtaaggaga 180  
 ggggagatac attcngaaaag aggactgaaa gaaatactca agtnggaaaa cagaaaaaga 240  
 aaaaaaggag caaatgagaa gcct 264

<210> 212  
 <211> 328  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(328)  
 <223> n = A,T,C or G

<400> 212  
 acccaaaaat ccaatgctga atatttggtc tcattattcc canattcttt gattgtcaaa 60  
 ggatttaatg ttgtctcagc ttgggcactt cagttaggac ctaaggatgc cagccggcag 120  
 gtttatatat gcagcaacaa tattcaagcg cgacaacagg ttattgaact tgcccgccag 180  
 ttnaatttca ttcccattga cttgggatcc ttatcatcag ccagagagat tgaaaattta 240  
 cccctacnac tctttactct ctgganaggg ccagtgggtg tagctataag cttggccaca 300  
 ttttttttct ctttattcct ttgtcaga 328

<210> 213  
 <211> 250  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature



&lt;222&gt; (1)...(250)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 213

acttatgagc agagcgacat atccnagtgt agactgaata aaactgaatt ctctccagtt	60
taaagcattg ctactgaag ggatagaagt gactgccagg agggaaagta agccaaggct	120
cattatgcc aagganatat acatttcaat tctccaaact tcttcctcat tccaagagtt	180
ttcaatattt gcatgaacct gctgataanc catgttaana aacaaatata tctctnacct	240
tctcatcggt	250

&lt;210&gt; 214

&lt;211&gt; 444

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(444)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 214

accagaatc caatgctgaa tatttggtt cattattccc agattctttg attgtcaaag	60
gatttaattg tgtctcagct tgggcacttc agttaggacc taaggatgcc agccggcagg	120
tttatatatg cagcaacaat attcaagcgc gacaacaggt tattgaactt gcccgccagt	180
tgaatttcat tcccattgac ttgggatcct tatcatcagc canagagatt gaaaatttac	240
ccctacgact ctttactctc tggagagggc cagtgggtgt agctataagc ttggccacat	300
ttttttttcc tttattcctt tgtcagagat gcgattcatc catatgctan aaaccaacag	360
agtgaacttt acaaaattcc tataganatt gtgaataaaa ccttacctat agttgccatt	420
actttgctct ccctaataata cctc	444

&lt;210&gt; 215

&lt;211&gt; 366

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(366)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 215

acttatgagc agagcgacat atccaagtgt anactgaata aaactgaatt ctctccagtt	60
taaagcattg ctactgaag ggatagaagt gactgccagg agggaaagta agccaaggct	120
cattatgcc aagganatat acatttcaat tctccaaact tcttcctcat tccaagagtt	180
ttcaatattt gcatgaacct gctgataagc catgttgaga aacaaatata tctctgacct	240
tctcatcggt aagcagaggc tgtaggcaac atggaccata gcgaanaaaa aacttagtaa	300
tccaagctgt tttctacact gtaaccaggt ttccaaccaa ggtggaaatc tcttatactt	360
ggtgcc	366

&lt;210&gt; 216

&lt;211&gt; 260

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

<221> misc\_feature  
<222> (1)...(260)  
<223> n = A,T,C or G

<400> 216

ctgtataaac agaactccac tgcangaggg agggccgggc caggagaatc tccgcttgtc	60
caagacaggg gcctaaggag ggtctccaca ctgctnntaa gggctnttnc atttttttat	120
taataaaaag tnnaaaaggc ctcttctcaa cttttttccc ttnggctgga aaatttaaaa	180
atcaaaaatt tcctnaagtt ntcaagctat catatatact ntatcctgaa aaagcaacat	240
aattcttctt tccctccttt	260

<210> 217  
<211> 262  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(262)  
<223> n = A,T,C or G

<400> 217

acctacgtgg gtaagtttan aaatgttata atttcaggaa naggaacgca tataattgta	60
tcttgcttat aattttctat tttaataagg aaatagcaaa ttgggggtggg gggaatgtag	120
ggcattctac agtttgagca aaatgcaatt aaatgtggaa ggacagcact gaaaaatttt	180
atgaataatc tgtatgatta tatgtctcta gagtagattt ataattagcc acttacccata	240
atatccttca tgcttgtaaa gt	262

<210> 218  
<211> 205  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(205)  
<223> n = A,T,C or G

<400> 218

accaaggtgg tgcattaccg gaantggatc aangacacca tctgtggccaa cccctgagca	60
cccctatcaa ctcccttttg tagtaaaactt ggaaccttgg aaatgaccag gccaaagactc	120
aggcctcccc agttctactg accttgtcc ttangtntna ngccagggt tgctagggaaa	180
anaaatcagc agacacaggt gtaa	205

<210> 219  
<211> 114  
<212> DNA  
<213> Homo sapien

<400> 219

tactgttttg tctcagtaac aataaatata aaaagactgg ttgtgttccg gcccatcca	60
accacgaagt tgatttctct tgtgtgcaga gtgactgatt ttaaaggaca tgga	114

<210> 220  
<211> 93

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 220

actagccagc acaaaaaggca gggtagcctg aattgctttc tgctctttac atttctttta	60
aaataagcat ttagtgctca gtcctactg agt	93

&lt;210&gt; 221

&lt;211&gt; 167

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (167)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 221

actangtgca ggtgcgca aatatttgc gatattccct tcattcttga ttccatgagg	60
tcttttgccc agcctgtggc tctactgtag taagtttctg ctgatgagga gccagnatgc	120
ccccactac cttccctgac gtccccaana aatcacccaa cctctgt	167

&lt;210&gt; 222

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 222

agggcgtggt gcgaggcg gtactgacct cattagtagg aggatgcatt ctggcacccc	60
gttcttcacc tgtccccaa tccttaaaag gccatactgc ataaagtcaa caacagataa	120
atgtttgctg aattaaagga tggatgaaaa aaattaataa tgaatttttg cataatccaa	180
ttttctcttt tatatttcta gaagaagttt ctttgagcct attagatccc gggaatcttt	240
taggtgagca tgattagaga gctttaggt tgcttttaca tatatctggc atatttgagt	300
ctcgtatcaa aacaatagat tggtaaaggt ggtattattg tattgataag t	351

&lt;210&gt; 223

&lt;211&gt; 383

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (383)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 223

aaaacaaaca aacaaaaaaa acaattcttc attcagaaaa attatcttag ggactgatat	60
tggttaattat ggtcaattta atwrtrttkt ggggcatttc cttacattgt cttgacaaga	120
ttaaaatgct tgtgcaaaa ttttgatttt tatttgagga cttcttatca aaagtaatgc	180
tgccaaagga agtctaagga attagtagtg ttcccmcac ttgtttggag tgtgctattc	240
taaaagattt tgatttctg gaatgacaat tatattttta ctttggtggg ggaaanagtt	300
ataggaccac agtcttcact tctgatactt gtaaattaat cttttattgc acttgttttg	360
accattaagc tatatgttta aaa	383

&lt;210&gt; 224

&lt;211&gt; 320

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 224

cccctgaagg	cttcttggtta	gaaaatagta	cagttacaac	caataggaac	aacaaaaaga	60
aaaagtttgt	gacattgtag	tagggagtgt	gtacccctta	ctcccatca	aaaaaaaaat	120
ggatacatgg	ttaaaggata	raagggcaat	attttatcat	atgttctaaa	agagaaggaa	180
gagaaaatac	tactttctcr	aatggaagc	ccttaaaggt	gctttgatac	tgaaggacac	240
aaatgtggcc	gtccatcctc	ctttaragtt	gcatgacttg	gacacggtaa	ctgttgacgt	300
tttaractcm	gcattgtgac					320

&lt;210&gt; 225

&lt;211&gt; 1214

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 225

gaggactgca	gccccgactc	gcagccctgg	caggcggcac	tgggtcatgga	aaacgaattg	60
ttctgctcgg	gcgtcctggt	gcatccgcag	tgggtgctgt	cagccgcaca	ctgtttccag	120
aactcctaca	ccatcgggct	gggcctgcac	agtcttgagg	ccgaccaaga	gccagggagc	180
cagatggtgg	aggccagcct	ctccgtacgg	caccagagt	acaacagacc	cttgctcgct	240
aacgacctca	tgtcatcaa	gttgacgaa	tccgtgtccg	agtctgacac	catccggagc	300
atcagcattg	cttcgcagtg	ccctaccgcg	gggaactctt	gcctcgtttc	tggctggggg	360
ctgctggcga	acggcagaat	gcctaccgtg	ctgcagtgcg	tgaacgtgtc	gggtggtgtc	420
gaggaggtct	gcagtaagct	ctatgacccg	ctgtaccacc	ccagcatggt	ctgcgccggc	480
ggagggcaag	accagaagga	ctcctgcaac	ggtgactctg	gggggcccc	gatctgcaac	540
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gggtgtctaca	ccaacctctg	caaattcact	gagtggatag	agaaaaccgt	ccaggccagt	660
taactctggg	gactgggaac	ccatgaaatt	gacccccaaa	tacatcctgc	ggaaggaatt	720
caggaatatc	tgttcccagc	ccctcctccc	tcaggcccag	gagtccaggc	ccccagcccc	780
tcctccctca	aaccaagggt	acagatcccc	agccccctct	ccctcagacc	caggagtcca	840
gacccccag	cccctcctcc	ctcagaccca	ggagtccagc	ccctcctccc	tcagacccag	900
gagtccagac	ccccagccc	ctcctcctcc	agacccaggg	gtccaggccc	ccaacccctc	960
ctccctcaga	ctcagaggtc	caagccccca	acccctcctt	ccccagaccc	agaggtccag	1020
gtcccagccc	ctcctcctcc	agacccagcg	gtccaatgcc	acctagactc	tcctgttaca	1080
cagtgccccc	ttgtggcacg	ttgacccaac	cttaccagtt	ggtttttcat	tttttgtccc	1140
tttcccctag	atcaggaaat	aaagtctaag	agaagcgcaa	aaaaaaaaaa	aaaaaaaaaa	1200
aaaaaaaaaa	aaaa					1214

&lt;210&gt; 226

&lt;211&gt; 119

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 226

accagtatg	tgcagggaga	cggaacccca	tgtgacagcc	cactccacca	gggttcccaa	60
agaacctggc	ccagtcataa	tcattcatcc	tgacagtggc	aataatcacg	ataaccagt	119

&lt;210&gt; 227

&lt;211&gt; 818

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 227

acaattcata	gggacgacca	atgaggacag	ggaatgaacc	cggtctctccc	ccagccctga	60
tttttgctac	atatggggtc	ccttttcatt	ctttgcaaaa	acactgggtt	ttctgagaac	120
acggacggtt	cttagcacia	tttgtgaaat	ctgtgtaraa	ccgggctttg	caggggagat	180
aattttcctc	ctctggagga	aagggtggtga	ttgacaggca	gggagacagt	gacaaggcta	240
gagaaagcca	cgctcggcct	tctctgaacc	aggatggaac	ggcagacccc	tgaaaacgaa	300
gcttgtcccc	ttccaatcag	ccacttctga	gaacccccat	ctaacttcct	actggaaaag	360
agggcctcct	caggagcagt	ccaagagttt	tcaaagataa	cgtagacaact	accatctaga	420
ggaaagggtg	caecctcagc	agagaagccg	agagcttaac	tctggtcggt	tccagagaca	480
acctgctggc	tgtcttggga	tgcgcccagc	ctttgagagg	ccactacccc	atgaacttct	540
gccatccact	ggacatgaag	ctgaggacac	tgggcttcaa	cactgagttg	tcatgagagg	600
gacaggctct	gccctcaagc	cggctgaggg	cagcaaccac	tctcctcccc	tttctcacgc	660
aaagccattc	ccacaaatcc	agaccatacc	atgaagcaac	gagacccaaa	cagtttggct	720
caagaggata	tgaggactgt	ctcagcctgg	ctttgggctg	acaccatgca	cacacacaag	780
gtccacttct	aggttttcag	cctagatggg	agtcgtgt			818

&lt;210&gt; 228

&lt;211&gt; 744

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 228

actggagaca	ctgttgaact	tgatcaagac	ccagaccacc	ccaggtctcc	ttcgtgggat	60
gtcatgacgt	ttgacatacc	tttggaaacga	gcctcctcct	tggaagatgg	aagaccgtgt	120
tcgtggccga	cctggcctct	cctggcctgt	ttcttaagat	gcggagtcac	atttcaatgg	180
taggaaaagt	ggcttcgtaa	aatagaagag	cagtcactgt	ggaactacca	aatggcgaga	240
tgctcgtgac	acattggggg	gctttgggat	aaaagattta	tgagccaact	attctctggc	300
accagattct	aggccagttt	gttccactga	agcttttccc	acagcagtc	acctctgcag	360
gctggcagct	gaatggcctg	ccgggtggct	tgtggcaaga	tcacactgag	atcgatgggt	420
gagaaggcta	ggatgcttgt	ctagtgttct	tagctgtcac	gttggctcct	tccaggttgg	480
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ccgtgggtatg	ccttggccca	ttccagcagt	cccagttatg	catttcaagt	ttggggtttg	600
ttcttttctg	taatgttctt	ctgtgttctc	agctgtcttc	atttctctgg	ctaagcagca	660
ttgggagatg	tggaccagag	atccactcct	taagaaccag	tggcgaaaga	cactttcttt	720
cttcaactctg	aagtagctgg	tggg				744

&lt;210&gt; 229

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 229

cgagtctggg	ttttgtctat	aaagtttgat	ccctcctttt	ctcatccaaa	tcatgtgaac	60
cattacacat	cgaaataaaa	gaaaggtggc	agacttgccc	aacgccaggc	tgacatgtgc	120
tgcagggttg	ttgtttttta	attattattg	ttagaaacgt	cacccacagt	ccctgttaat	180
ttgtatgtga	cagccaactc	tgagaaggtc	ctatttttcc	acctgcagag	gatccagtc	240
cactaggctc	ctccttgccc	tcacactgga	gtctccgcca	gtgtgggtgc	ccactgacat	300

&lt;210&gt; 230

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 230

cagcagaaca	aatacaata	tgaagagtgc	aaagatctca	taaaatctat	gctgaggaat	60
gagcgacagt	tcaaggagga	gaagcttgca	gagcagctca	agcaagctga	ggagctcagg	120

caatataaag tcctggttca cactcaggaa cgagagctga cccagttaag ggagaagttg 180  
 cgggaagggga gagatgcctc cctctcattg aatgagcatc tccaggccct cctcactccg 240  
 gatgaaccgg acaagtccca ggggcaggac ctccaagaaa cagacctcgg ccgcgaccac 300  
 g 301

<210> 231  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 231  
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 caggaactcc aagtccacat ccttggaac tggggacttg cgcagggttag ccttgaggat 120  
 ggcaacacgg gactttctcat caggaagtgg gatgtagatg agctgatcaa gacggccagg 180  
 tctgaggatg gcaggatcaa tgatgtcagg ccggttggtta ccgccaatga tgaacacatt 240  
 tttttttgtg gacatgccat ccattttctgt caggatctgg ttgatgactc ggtcagcagc 300  
 c 301

<210> 232  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 232  
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 ggcgacagcg gggcttcctg attctggaat ataactttgt gtaaattaac agccacctat 120  
 agaagagtcc atctgctgtg aaggagagac agagaactct gggttccgct gtctgttcca 180  
 cgtgctgtac caagtgtctg tgccagcctg ttacctgttc tctactgaaa tctggctaatt 240  
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 g 301

<210> 233  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 233  
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 cctagaagtt acagagcatc tagctggtgc gctggcacc cttggcctcac acagactccc 180  
 gtagtagctgg gactacaggc acacagtcac tgaagcaggc cctggttagca attctatgag 240  
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 c 301

<210> 234  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 234  
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 cattttattc atcatgatgc tttcttttgt ttcttctttt cgttttcttc tttttctttt 120  
 tcaatttcag caacatactt ctcaaattct tcaggattta aaatcttgag ggattgatct 180  
 cgcctcatga cagcaagttc aatgtttttg ccacctgact gaaccacttc caggagtgcc 240  
 ttgatcacca gcttaatggt cagatcatct gcttcaatgg cttcgtcagt atagttcttc 300

t

301

&lt;210&gt; 235

&lt;211&gt; 283

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 235

tggggctgtg catcagggcgg gtttgagaaa tattcaattc tcagcagaag ccagaatttg	60
aattccctca tcttttaggg aatcatttac caggtttga gaggattcag acagctcagg	120
tgctttcact aatgtctctg aacttctgtc cctctttgtt catggatagt ccaataaata	180
atgttatctt tgaactgatg ctcataggag agaataaag aactctgagt gatatcaaca	240
ttagggattc aaagaaatat tagattttaag ctcacactgg tca	283

&lt;210&gt; 236

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 236

aggtcctcca ccaactgcct gaagcacggg taaaattggg aagaagtata gtgcagcata	60
aatactttta aatcgatcag atttccctaa cccacatgca atcttcttca ccagaagagg	120
tcggagcagc atcattaata ccaagcagaa tgcgtaatag ataaatacaa tggatatag	180
tgggtagacg gcttcgatg tacagtgtac tgtgggtatcg taatctggac ttgggttgta	240
aagcatcgtg taccagtcag aaagcatcaa tactcgacat gaacgaatat aaagaacacc	300
a	301

&lt;210&gt; 237

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 237

cagtggtagt ggtgggtggac gtggcggttg tcgtgggtgcc ttttttggtg cccgtcacaa	60
actcaatttt tgttcgctcc tttttggcct ttccaattt gtccatctca attttctggg	120
ccttggttaa tgcctcatag taggagtcct cagaccagcc atggggatca aacatatcct	180
ttgggtagtt ggtgccaaagc tcgtcaatgg cacagaatgg atcagcttct cgtaaattcta	240
gggttccgaa attctttctt cctttggata atgtagttca tatccattcc ctcttttatt	300
t	301

&lt;210&gt; 238

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 238

gggcagggtt tttttttttt ttttttgatg gtgcagaccc ttgctttatt tgtctgactt	60
gttcacagtt cagccccctg ctcagaaaac caacgggcca gctaaggaga ggaggaggca	120
ccttgagact tccggagtcg aggtctctcca ggggtccccca gccatcaat cattttctgc	180
acccccctgc tgggaagcag ctccctgggg ggtgggaatg ggtgactaga agggatttca	240
gtgtgggacc cagggtctgt tcttcacagt aggaggtgga agggatgact aatttcttta	300
t	301

&lt;210&gt; 239

&lt;211&gt; 239

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 239

ataagcagct aggggaattct ttatttagta atgtcctaac ataaaagtgc acataactgc	60
ttctgtcaaa ccatgatact gagctttgtg acaaccaga aataactaag agaaggcaaa	120
cataatacct tagagatcaa gaaacattta cacagttcaa ctgtttaaaa atagctcaac	180
attcagccag tgagtagagt gtgaatgcc a gcatacacag tatacaggte cttcagggga	239

&lt;210&gt; 240

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 240

ggtcctaatag aagcagcagc ttccacattt taacgcaggt ttacgggtgat actgtccttt	60
gggatctgcc ctccagtggg accttttaag gaagaagtgg gcccaagcta agttccacat	120
gctgggtgag ccagatgact tctgttccct ggtcactttc ttcaatgggg cgaatggggg	180
ctgccaggtt tttaaaatca tgcttcatct tgaagcacac ggtcacttca cctcctcac	240
gctgtgggtg tactttgatg aaaataccca ctttgttggc ctttctgaag ctataatgtc	300

&lt;210&gt; 241

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 241

gaggtctggt gctgaggtct ctgggctagg aagaggagtt ctgtggagct ggaagccaga	60
cctcttttga ggaactcca gcagctatgt tgggtgtctt gagggaatgc aacaaggctg	120
ctcctccatg tattggaaaa ctgcaaactg gactcaactg gaagggaagtg ctgctgccag	180
tgtgaagaac cagcctgagg tgacagaaac ggaagcaaac aggaacagcc agtcttttct	240
tcctcctcct gtcatacggg ctctctcaag catcctttgt tgtcaggggc ctaaaaggga	300
g	301

&lt;210&gt; 242

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 242

ccgaggtcct gggatgcaac caatcactct gtttcacgtg acttttatca ccatacaatt	60
tgtggcattt cctcattttc tacattgtag aatcaagagt gtaataaat gtatatcgat	120
gtcttcaaga atatatcatt cttttttcac tagaaccat tcaaaatata agtcaagaat	180
cttaatatca acaaatatat caagcaaact ggaaggcaga ataactacca taatttagta	240
taagtaccca aagttttata aatcaaaagc cctaatagata accattttta gaattcaatc	300
a	301

&lt;210&gt; 243

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 243

aggtaagtcc cagtttgaag ctcaaaagat ctggtatgag cataggctca tcgacgacat	60
ggtggcccaa gctatgaaat cagagggagg cttcatctgg gcctgtaaaa actatgatgg	120



tgacgtgcag tcggactctg tggcccaagg gtatggctct ctccggcatga tgaccagcgt 180  
gctggtttgt ccagatggca agacagtaga agcagaggct gcccacggga ctgtaaccgc 240  
tcactaccgc atgttccaga aaggacagga gacgtccacc aatcccattg cttccatttt 300  
t 301

&lt;210&gt; 244

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 244

gctggtttgc aagaatgaaa tgaatgattc tacagctagg acttaacctt gaaatggaaa 60  
gtcatgcaat cccatttgcg ggatctgtct gtgcacatgc ctctgtagag agcagcattc 120  
ccagggacct tggaaacagt tgacactgta aggtgcttgc tccccaagac acatcctaaa 180  
aggtgttgta atggtgaaaa cgtcttctct ctttattgcc ccttcttatt tatgtgaaca 240  
actgtttgtc ttttgtgtat cttttttaaa ctgtaaagtt caattgtgaa aatgaatatt 300

&lt;210&gt; 245

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 245

gtctgagtat ttaaaatggt attgaaatta tccccaacca atgttagaaa agaaagaggt 60  
tatatactta gataaaaaat gaggtgaatt actatccatt gaaatcatgc tcttagaatt 120  
aaggccagga gatattgtca ttaatgtara cttcaggaca cttagagtata gcagccctat 180  
gttttcaaag agcagagatg caattaaata ttgttttagca tcaaaaaggc cactcaatac 240  
agctaataaa atgaaagacc taatttctaa agcaattctt tataatttac aaagttttaa 300  
g 301

&lt;210&gt; 246

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 246

ggctctgtct acaatgcctg cttcttgaaa gaagtcggca ctttctagaa tagctaaata 60  
acctgggctt attttaaaga actatttgta gctcagattg gttttcctat ggctaaaata 120  
agtgttctt gtgaaaatta aataaaacag ttaattcaaa gccttgatat atgttaccac 180  
taacaatcat actaaatata ttttgaagta caaagtgtga catgctctaa agtgacaacc 240  
caaagtgtc ttacaaaaca cgttcttaac aaggatatgt ttacactacc aatgcagaaa 300  
c 301

&lt;210&gt; 247

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 247

aggtcctttg gcagggctca tggatcagag ctcaaactgg agggaaaggc atttcgggta 60  
gcctaagagg gcgactggcg gcagcacaac caaggaaggc aagggtgttt cccccacgct 120  
gtgtcctgtg ttcaggtgcg acacacaatc ctcatgggaa caggatcacc catgcgctgc 180  
ccttgatgat caaggttggg gcttaagtgg attaaggag gcaagttctg gggtccttgc 240  
cttttcaaac catgaagtca ggctctgtat ccctcctttt cctaactgat attctaacta 300  
a 301

<210> 248  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 248

```

aggtccttgg agatgccatt tcagccgaag gactcttctw ttcggaagta caccctcact      60
attaggaaga ttcttagggg taatttttct gaggaaggag aactagccaa cttaagaatt      120
acaggaagaa agtggtttgg aagacagcca aagaaataaa agcagattaa attgtatcag      180
gtacattcca gcctgttggc aactccataa aaacatttca gattttaatc ccgaatttag      240
ctaattgagac tggatttttg ttttttatgt tgtgtgtcgc agagctaaaa actcagttcc      300
c                                                                                   301

```

<210> 249  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 249

```

gtccagagga agcacctggt gctgaactag gcttgccctg ctgtgaactt gcacttggag      60
ccctgacgct gctgttctcc ccgaaaaacc cgaccgacct ccgcgatctc cgccccgcc      120
ccagggagac acagcagtga ctacagagctg gtgcacacct gtgcctccct cctcaccgcc      180
catcgtaatg aattattttg aaaattaatt ccaccatcct ttcagattct ggatggaaag      240
actgaatctt tgactcagaa ttgtttgctg aaaagaatga tgtgactttc ttagtcattt      300
a                                                                                   301

```

<210> 250  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 250

```

ggtctgtgac aaggacttgc aggctgtggg aggcaagtga cccttaacac tacacttctc      60
cttatcttta ttggcttgat aaacataatt atttctaaca ctagcttatt tccagttgcc      120
cataagcaca tcagtacttt tctctggctg gaatagtaaa ctaaagtatg gtacatctac      180
ctaaaagact actatgtgga ataatacata ctaatgaagt attacatgat ttaaagacta      240
caataaaacc aaacatgctt ataacattaa gaaaaacaat aaagatacat gattgaaacc      300
a                                                                                   301

```

<210> 251  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 251

```

gccgaggtcc tacatttggc ccagtttccc cctgcatect ctccagggcc cctgcctcat      60
agacaacctc atagagcata ggagaactgg ttgccctggg ggcaggggga ctgtctggat      120
ggcaggggtc ctcaaaaatg ccactgtcac tgccaggaaa tgcttctgag cagtacacct      180
cattgggatc aatgaaaagc ttcaagaaat cttcaggctc actctcttga aggcccgaa      240
cctctggagg ggggcagtgg aatcccagct ccaggacgga tctgtcgaag aagatatact      300
c                                                                                   301

```

<210> 252  
 <211> 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 252

```

gcaaccaatc actctgtttc acgtgacttt tatcaccata caatttggtg catttcctca      60
ttttctacat tgtagaatca agagtgtaaa taaatgtata tcgatgtctt caagaatata      120
tcattccttt ttcactagga acccattcaa aatataagtc aagaatctta atatcaacaa      180
atatatcaag caaactggaa ggcagaataa ctaccataat ttagtataag tacccaaagt      240
tttataaatc aaaagcccta atgataacca tttttagaat tcaatcatca ctgtagaatc      300
a

```

&lt;210&gt; 253

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 253

```

ttccctaaga agatgttatt ttgttgggtt ttgttcccc tccatctcga ttctcgtacc      60
caactaaaaa aaaaaataa agaaaaaatg tgctgcgttc tgaaaaataa ctcttagct      120
tggtctgatt gttttcagac cttaaaatat aaacttggtt cacaagcttt aatccatgtg      180
gatttttttt cttagagaac cacaaaacat aaaaggagca agtcggactg aatacctgtt      240
tccatagtgc ccacagggtt ttcctcacat tttctccata ggaaaatgct ttttcccaag      300
g

```

&lt;210&gt; 254

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 254

```

cgctgcgcct ttcccttggg ggagggggcaa ggccagaggg ggtccaagtg cagcacgagg      60
aacttgacca attcccttga agcgggtggg ttaaaccctg taaatgggaa caaaatcccc      120
ccaaatctct tcattctacc ctggtggact cctgactgta gaattttttg gttgaaacaa      180
gaaaaaataa agcttttggg cttttcaagg ttgcttaaca ggtactgaaa gactggcctc      240
acttaactg agccaggaaa agctgcagat ttattaatgg gtgtgttagt gtgcagtgcc      300
t

```

&lt;210&gt; 255

&lt;211&gt; 302

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 255

```

agcttttttt tttttttttt tttttttttt ttcattaaaa aatagtgtc tttattataa      60
attactgaaa tgtttctttt ctgaatataa atataaatat gtgcaaagt tgaactggat      120
tgggattttt ttgagttctt caagcatctc ctaataccct caagggcctg agtagggggg      180
aggaaaaagg actggaggtg gaatctttat aaaaaacaag agtgattgag gcagattgta      240
aacattatta aaaaacaaga aacaaacaaa aaaatagaga aaaaaaccac cccaacacac      300
aa

```

&lt;210&gt; 256

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 256

```
gttccagaaa acattgaagg tggcttccca aagtctaact agggatacce cctctagcct    60
aggaccctcc tccccacacc tcaatccacc aaaccatcca taatgcaccc agataggccc    120
acccccaaaa gcctggacac cttgagcaca cagttatgac caggacagac tcatctctat    180
aggcaaatac ctgctggcaa actggcatta cctggtttgt ggggatgggg gggcaagtgt    240
gtggcctctc ggcctggtta gcaagaacat tcagggtagg cctaagttaa tcgtgttagt    300
t                                                                    301
```

&lt;210&gt; 257

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 257

```
gttgtggagg aactctggct tgctcattaa gtectactga ttttcactat cccctgaatt    60
tccccactta ttttgtctt tcactatcgc aggccttaga agaggcttac ctgcctccag    120
tcttacctag tccagtctac cccctggagt tagaatggcc atcctgaagt gaaaagtaat    180
gtcacattac tcccttcagt gatttcttgt agaagtgcc aatccctgaat gccaccaaga    240
tcttaattct cactcttta atcttatctc ttgactcct ctttacaccg gagaaggctc    300
c                                                                    301
```

&lt;210&gt; 258

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 258

```
cagcagtagt agatgccgta tgccagcacg cccagcactc ccaggatcag caccagcacc    60
agggggcccag ccaccaggcg cagaagcaag ataaacagta ggctcaagac cagagccacc    120
cccaggggcaa caagaatcca ataccaggac tgggcaaaat cttcaaagat cttaacactg    180
atgtctcggg cattgaggct gtcaataana cgctgatccc ctgctgtatg gtggtgtcat    240
tggtgatccc tgggagcgcc ggtggagtaa cgttgggtcca tggaaagcag cgcccacaac    300
t                                                                    301
```

&lt;210&gt; 259

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 259

```

tcatatatgc aaacaaatgc agactangcc tcaggcagag actaaaggac atctcttggg      60
gtgtcctgaa gtgatttgga cccctgaggg cagacaccta agtaggaatc ccagtgggaa      120
gcaaagccat aaggaagccc aggattcctt gtgatcagga agtgggcccag gaaggtctgt      180
tccagctcac atctcatctg catgcagcac ggaccggatg cgcccactgg gtcttggctt      240
ccctcccatc ttctcaagca gtgtccttgt tgagccattt gcatecttgg ctccaggtgg      300
c
( 301

```

```

<210> 260
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 260
ttttttttct ccctaaggaa aaagaaggaa caagtctcat aaaaccaa at aagcaatggt      60
aaggtgtctt aacttgaaaa agattaggag tcaactggtt acaagttata attgaatgaa      120
agaactgtaa cagccacagt tggccatttc atgccaatgg cagcaaacia caggattaac      180
tagggcaaaa taaataagtg tgtggaagcc ctgataagtg cttaataaac agactgattc      240
actgagacat cagtacctgc cggggcggcc gtcgagccg aattctgcag atatccatca      300
c
301

```

```

<210> 261
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 261
aaatattcga gcaaattcctg taactaatgt gtctccataa aaggctttga actcagtgaa      60
tctgcttcca tccacgattc tagcaatgac ctctcggaca tcaaagctcc tcttaaggtt      120
agcaccaact attccatata attcatcagc aggaaataaa ggctcttcag aaggttcaat      180
ggtgacatcc aattttcttct gataatttag attcctcaca accttcctag ttaagtgaag      240
ggcatgatga tcatccaaag cccagtgggc acttactcca gactttctgc aatgaagatc      300
a
301

```

```

<210> 262
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 262
gaggagagcc tgttacagca tttgtaagca cagaatactc caggagtatt tgtaattgtc      60
tgtgagcttc ttgccgcaag tctctcagaa atttaaaaag atgcaaatec ctgagtcacc      120
cctagacttc ctaaaccaga tctctgaggg ctggaacctg gcactctgca tttgtaatga      180
gggctttctg gtgcacacct aattttgtgc atctttgccc taaatcctgg attagtcccc      240
catcattacc cccacattat aatgggatag attcagagca gatactctcc agcaaagaat      300
c
301

```

```

<210> 263
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (301)
<223> n = A,T,C or G

```

&lt;400&gt; 263

tttagcttgt	ggtaaatgac	tcacaaaact	gatttttaaaa	tcaagttaat	gtgaattttg	60
aaaattacta	cttaatccta	attcacaata	acaatggcat	taaggtttga	cttgagttgg	120
ttcttagtat	tatttatggt	aaataggctc	ttaccacttg	caaataactg	gccacatcat	180
taatgactga	cttcccagta	aggctctcta	aggggtaagt	angaggatcc	acaggatttg	240
agatgctaag	gccccagaga	tcgtttgatc	caaccctctt	attttcagag	gggaaaatgg	300
g						301

&lt;210&gt; 264

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 264

aaagacgtta	aaccactcta	ctaccacttg	tggaactctc	aaagggtaaa	tgacaaascc	60
aatgaatgac	tctaaaaaca	atattttacat	ttaatggttt	gtagacaata	aaaaaacaag	120
gtggatagat	ctagaattgt	aacattttta	gaaaaccata	scatttgaca	gatgagaaag	180
ctcaattata	gatgcaaagt	tataactaaa	ctactatagt	agtaaagaaa	tacatttcac	240
acccttcata	taaattcact	atcttggtt	gaggcactcc	ataaaatgta	tcacgtgcat	300
a						301

&lt;210&gt; 265

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 265

tgcccaagtt	atgtgtaagt	gtatccgcac	ccagaggtaa	aactacactg	tcctctttgt	60
cttcttgtga	cgcagtattt	cttctctggg	gagaagccgg	gaagtcttct	cctggctcta	120
catattcttg	gaagtctcta	atcaactttt	gttccatttg	tttcatttct	tcaggaggga	180
ttttcagttt	gtcaacatgt	tctctaacaa	cacttgccca	tttctgtaaa	gaatccaaag	240
cagtccaagg	ctttgacatg	tcaacaacca	gcataactag	agtatccttc	agagatacgg	300
c						301

&lt;210&gt; 266

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 266

taccgtctgc	ccttctccc	atccaggcca	tctgcgaatc	tacatgggtc	ctcctattcg	60
acaccagatc	actctttcct	ctaccacag	gcttgctatg	agcaagagac	acaacctcct	120
ctcttctgtg	ttccagcttc	tttctctgtt	cttcccaccc	cttaagttct	attcctgggg	180
atagagacac	caataccat	aacctctctc	ctaagcctcc	ttataacca	gggtgcacag	240
cacagactcc	tgacaactgg	taaggccaat	gaactgggag	ctcacagctg	gctgtgcctg	300
a						301

&lt;210&gt; 267

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 267

aaagagcaca	ggccagctca	gcctgccctg	gccatctaga	ctcagcctgg	ctccatgggg	60
------------	------------	------------	------------	------------	------------	----

```

gttctcagtg ctgagtcctat ccaggaaaag ctcacctaga ccttctgagg ctgaatcttc      120
atcctcacag gcagcttctg agagcctgat attcctagcc ttgatggctt ggagtaaagc      180
ctcattctga ttctctctct tcttttcttt caagttggct ttctcacat ccctctgttc      240
aatcgcttc agcttgtctg ctttagccct catttcaga agcttcttct ctttggcatc      300
t                                                                                   301

```

&lt;210&gt; 268

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 268

```

aatgtctcac tcaactactt cccagcctac cgtggcctaa ttctgggagt tttcttctta      60
gatcttggga gagctgggtc ttctaaggag aaggaggaag gacagatgta accttggatc      120
tcgaagagga agtctaattg aagtaattag tcaacgggtc ttgtttagac tcttgggaata      180
tgctgggtgg ctgagtgggc ccttttggag aaagcaagta ttattcttaa ggagtaacca      240
cttcccattg ttctactttc taccatcatc aattgtatat tatgtattct ttggagaact      300
a                                                                                   301

```

&lt;210&gt; 269

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 269

```

taacaatata cactagctat ctttttaact gtccatcatt agcaccaatg aagattcaat      60
aaaattacct ttattcacac atctcaaaac aattctgcaa attcttagtg aagttaact      120
atagtcacag acctaaata ttcacattgt tttctatgtc tactgaaaat aagttcacta      180
cttttctgga tattctttac aaaatcttat taaaattcct ggtattatca cccccaatta      240
tacagtagca caaccacctt atgtagtttt tacatgatag ctctgtagaa gtttcacatc      300
t                                                                                   301

```

&lt;210&gt; 270

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 270

```

cattgaagag cttttgcgaa acatcagaac acaagtgtt ataaaattaa ttaagcctta      60
cacaagaata catattcctt ttatttctaa ggagttaaac atagatgtag ctgatgtgga      120
gagcttgctg gtgcagtgca tattggataa cactattcat ggccgaattg atcaagtcaa      180
ccaactcctt gaactggatc atcagaagaa ggggtggtgca cgatatactg cactagataa      240
tggaccaacc aactaaattc tctcaccagg ctgtatcagt aaactggctt aacagaaaac      300
a                                                                                   301

```

&lt;210&gt; 271

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 271

aaaaggttct cataagatta acaattttaa taaatatttg atagaacatt ctttctcatt	60
tttatagctc atcttttaggg ttgatattca gttcatgctt cccttgctgt tcttgatcca	120
gaattgcaat cacttcatca gcctgtattc gctccaattc tctataaagt ggggtccaagg	180
tgaaccacag agccacagca cacctctttc ccttggtgac tgccttcacc ccatganggt	240
tctctcctcc agatganaac tgatcatgcg cccacatttt gggttttata gaagcagtca	300
c	301

&lt;210&gt; 272

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 272

taaattgcta agccacagat aacaccaatc aaatggaaca aatcactgtc ttcaaagtgc	60
ttatcagaaa accaaatgag cctggaatct tcataatacc taaacatgcc gtatttagga	120
tccaataatt cctcatgat gagcaagaaa aattctttgc gcacccctcc tgcattccaca	180
gcatcttctc caacaaatat aaccttgagt ggcttcttgt aatctatgtt ctttgttttc	240
ctaaggactt ccattgcatc tctacaata ttttctctac gcaccactag aattaagcag	300
g	301

&lt;210&gt; 273

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)... (301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 273

acatgtgtgt atgtgtatct ttgggaaan aanaagacat cttgtttayt atttttttgg	60
agagangctg ggacatggat aatcacwtaa ttgtctayta tyactttaat ctgactygaa	120
gaaccgtcta aaaataaaat ttaccatgctc dtatattcct tatagtatgc ttatttcacc	180
ttytttctgt ccagagagag tatcagtgc ananatttma ggggtgaamac atgmattgggt	240
gggacttnty tttacngagm accctgccc gscgcctctg makcngantt ccgcsananc	300
t	301

&lt;210&gt; 274

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)... (301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 274

cttatatact ctttctcaga ggcaaaagag gagatgggta atgtagacaa ttctttgagg	60
aacagtaaat gattattaga gagaangaat ggaccaagga gacagaaatt aacttgtaaa	120
tgattctctt tggaatctga atgagatcaa gaggccagct ttagcttggt gaaaagtcca	180
tctaggtatg gttgcattct cgtcttcttt tctgcagtag ataatgaggt aaccgaaggc	240
aattgtgctt cttttgataa gaagctttct tggatcatatc aggaaattcc aganaaaagtc	300



c

301

<210> 275  
 <211> 301  
 <212> DNA  
 <213> Homo sapien  
  
 <220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 275  
 tcggtgtcag cagcacgtgg cattgaacat tgcaatgtgg agcccaaacc acagaaaatg 60  
 ggggtgaaatt ggccaacttt ctattaactt atgttgccaa ttttgccacc aacagtaagc 120  
 tggcccttct aataaaagaa aattgaaagg tttctcacta aacggaatta agtagtggag 180  
 tcaagagact cccaggcctc agcgtacctg cccgggcggc cgctcgaagc cgaattctgc 240  
 agatatccat cacactggcg gncgctcgan catgcatcta gaaggnccaa ttcgccttat 300  
 a 301

<210> 276  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 276  
 tgtacacata ctcaataaat aaatgactgc attgtggtat tattactata ctgattatat 60  
 ttatcatgtg acttctaatt agaaaatgta tccaaaagca aaacagcaga tatacaaaat 120  
 taaagagaca gaagatagac attaacagat aaggcaactt atacattgag aatccaaatc 180  
 caatacatTT aaacatttgg gaaatgaggg ggacaaatgg aagccagatc aaatttgtgt 240  
 aaaactattc agtatgtttc ccttgcttca tgtctgagaa ggctctcctt caatggggat 300  
 g 301

<210> 277  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 277  
 tttgttgatg tcagtatttt attacttgcg ttatgagtgc tcacctggga aattctaaag 60  
 atacagagga cttggaggaa gcagagcaac tgaatttaat ttaaaagaag gaaaacattg 120  
 gaatcatggc actcctgata ctttcccaaa tcaacactct caatgccccca cctcgtcct 180  
 caccatagtg gggagactaa agtggccacg gatttgcctt angtgtgcag tgcgttctga 240  
 gttcncgtgc gattacatct gaccagtctc ctttttccga agtccttccg ttcaatcttg 300  
 c 301

<210> 278  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 278

taccactaca ctccagcctg ggcaacagag caagacctgt ctcaaagcat aaaatggaat	60
aacatatcaa atgaaacagg gaaaatgaag ctgacaattt atggaagcca gggcttgctca	120
cagtctctac tggttattatg cattacctgg gaatttatat aagcccttaa taataatgcc	180
aatgaacatc tcatgtgtgc tcacaatgtt ctggcactat tataagtgtc tcacagggtt	240
tatgtgttct tcgtaacttt atggantagg tactcggcgc cgaacacgct aagccgaatt	300
c	301

&lt;210&gt; 279

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 279

aaagcaggaa tgacaaagct tgcttttctg gtatgttcta ggtgtattgt gacttttact	60
gttatattaa ttgccaatat aagtaaatat agattatata tgtatagtgt ttcacaaagc	120
ttagaccttt accttccagc caccacacag tgcttgatat ttcagagtca gtcattgggt	180
atacatgtgt agttccaaag cacataagct agaanaanaa atatttctag ggagcactac	240
catctgtttt cacatgaaat gccacacaca tagaactcca acatcaattt cattgcacag	300
a	301

&lt;210&gt; 280

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 280

ggtactggag ttttcctccc ctgtgaaaac gtaactactg ttgggagtga attgaggatg	60
tagaaagggtg gtggaaccaa attgtggta atggaaatag gagaatatgg ttctcactct	120
tgagaaaaaa acctaaagatt agcccaggtg gttgcctgta acttcagttt ttctgcctgg	180
gtttgatata gtttaggggtt ggggttagat taagatctaa attacatcag gacaaagaga	240
cagactatta actccacagt taattaagga ggtatgttcc atgtttattt gttaaagcag	300
t	301

&lt;210&gt; 281

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 281

aggtacaaga aggggaatgg gaaagagctg ctgctgtggc attgttcaac ttggatattc	60
gccgagcaat ccaaatcctg aatgaagggg catcttctga aaaaggagat ctgaatctca	120
atgtggtagc aatggcttta tcgggttata cgatgagaa gaactccctt tggagagaaa	180
tgtgtagcac actgcgatta cagctaaata acccgattt gtgtgtcatg ttgtcatttc	240

tgacaagtga aacaggatct tacgatggag ttttgtatga aaacaaagtt gcagtacctc 300  
g 301

<210> 282  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 282  
caggtactac agaattaaaa tactgacaag caagtagttt cttggcgtgc acgaattgca 60  
tccagaacct aaaaattaag aaattcaaaa agacattttg tgggcacctg ctagcacaga 120  
agcgcagaag caaagcccag gcagaacctat gctaacctta cagctcagcc tgcacagaag 180  
cgcagaagca aagcccaggc agaaccatgc taaccttaca gctcagcctg cacagaagcg 240  
cagaagcaaa gccaggcag aacatgctaa ccttacagct cagcctgcac agaagcacag 300  
a 301

<210> 283  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 283  
atctgtatac ggcagacaaa ctttatarag tgtagagagg tgagcgaaag gatgcaaaag 60  
cactttgagg gctttataat aatatgctgc ttgaaaaaaa aaatgtgtag ttgatactca 120  
gtgcatctcc agacatagta aggggttgct ctgaccaatc aggtgatcat tttttctatc 180  
acttcccagg ttttatgcaa aaattttgtt aaattctata atggtgatat gcatctttta 240  
ggaaacatat acatttttaa aaatctattt tatgtaagaa ctgacagacg aatttgcttt 300  
g 301

<210> 284  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 284  
caggtacaaa acgctattaa gtggcttaga atttgaacat ttgtggtctt tatttacttt 60  
gcttcgtgtg tgggcaaagc aacatcttcc ctaaatatat attaccaaga aaagcaagaa 120  
gcagattagg tttttgacaa aacaaacagg ccaaaagggg gctgacctgg agcagagcat 180  
ggtgagaggc aaggcatgag agggcaagtt tgttgtggac agatctgtgc ctactttatt 240  
actggagtaa aagaaaacaa agttcattga tgtcgaagga tatatacagt gttagaatt 300  
a 301

<210> 285  
<211> 301  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(301)  
<223> n = A,T,C or G

<400> 285  
acatcaccat gatcggatcc cccacccatt atacgttgta tgtttacata aatactcttc 60  
aatgatcatt agtgttttaa aaaaaatact gaaaactcct tctgcatccc aatctctaac 120

caggaaagca aatgctatctt acagacctgc aagccctccc tcaaacnaaa ctatttctgg 180  
attaaatatt tctgacttct tttagagtca cagcactagg caaatgctat ttacgatctg 240  
caaaagctgt ttgaagagtc aaagccccc tgtgaacacg atttctggac cctgtaacag 300  
t 301

&lt;210&gt; 286

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 286

taccactgca ttccagcctg ggtgacagag tgagactccg tctccaaaaa aaactttgct 60  
tgtatattat ttttgcctta cagtggatca ttctagtagg aaaggacagt aagatttttt 120  
atcaaaatgt gtcatgccag taagagatgt tatattcttt tctcatttct tccccaccca 180  
aaaataagct accatatagc ttataagtct caaatttttg ccttttacta aaatgtgatt 240  
gtttctgttc attgtgtatg cttcatcacc tatattaggg aaattccatt ttttccttg 300  
t 301

&lt;210&gt; 287

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 287

tacagatctg ggaactaaat attaaaaatg agtgtggctg gatatatgga gaatgttggg 60  
cccagaagga acgtagagat cagatattac aacagctttg ttttgagggg tagaaatatt 120  
aaatgatttg gttatgaacg cacagtttag gcagcagggc cagaatcctg accctctgcc 180  
ccgtgggtat ctcctcccca gcttggtcgc ctcagtgtat cacagtattc cattttgttt 240  
gttgcattgc ttgtgaagcc atcaagattt tctcgtctgt tttcctctca ttggtaattgc 300  
t 301

&lt;210&gt; 288

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 288

gtacacctaa ctgcaaggac agctgaggaa tgtaatgggc agccgctttt aaagaagtag 60  
agtcaatagg aagacaaatt ccagttccag ctcagtctgg gtatctgcaa agctgcaaaa 120  
gatcttttaa gacaatttca agagaatatt tccttaaagt tggcaatttg gagatcatac 180  
aaaagcatct gcttttgtga tttaatttag ctcattctgg cactggaaga atccaaacag 240  
tctgccttaa ttttggatga atgcatgatg gaaattcaat aatttagaaa gttaaaaaaa 300  
a 301

&lt;210&gt; 289

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 289

```

ggtacactgt ttccatgta tgtttctaca cattgctacc tcagtgtccc tggaaactta      60
gcttttgatg tctccaagta gtccaccttc atttaactct ttgaaactgt atcatctttg      120
ccaagtaaga gtggtggcct atttcagctg ctttgacaaa atgactggct cctgacttaa      180
cgttctataa atgaatgtgc tgaagcaaag tgcccatggg ggcggcgaan aagagaaaga      240
tgtgttttgt tttggactct ctgtgggtccc ttccaatgct gtgggtttcc aaccagnnga      300
a                                                                 301

```

&lt;210&gt; 290

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 290

```

acactgagct cttcttgata aatatacaga atgcttggca tatacaagat tctatactac      60
tgactgatct gttcatttct ctcacagctc ttaccccaa aagcttttcc accctaagtg      120
ttctgacctc ctttttctaat cacagtaggg atagaggcag anccacctac aatgaacatg      180
gagttctatc aagaggcaga aacagcacag aatcccagtt ttaccattcg ctagcagtgc      240
tgccttgaac aaaaacattt ctccatgtct cattttcttc atgcctcaag taacagtgag      300
a                                                                 301

```

&lt;210&gt; 291

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 291

```

caggtaacaa tttcttctat cctagaaaca ttctatttta tgttggtgaa acataacaac      60
tatacagct agattttttt tctatgcttt acctgctatg gaaaatttga cacattctgc      120
tttactcttt tgtttatagg tgaatcacia aatgtatttt tatgtattct gtagtccaat      180
agccatggct gtttacttca ttttaattat ttagcataaa gacattatga aaaggcctaa      240
acatgagctt cacttcccca ctaactaatt agcatctggt atttcttaac cgtaatgcct      300
a                                                                 301

```

&lt;210&gt; 292

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 292

```

accttttagt agtaatgtct aataataaat aagaaatcaa ttttataagg tccatatagc      60
tgtattaaat aatttttaag tttaaaagat aaaataccat cattttaaat gttgggtattc      120
aaaaccaaag natataaccg aaaggaaaaa cagatgagac ataaaatgat ttgcnagatg      180
ggaaatatag tasttyatga atgttnatta aattccagtt ataatagtgg ctacacactc      240
tcactacaca cacagacccc acagtcctat atgccacaaa cacatttcca taacttgaaa      300
a                                                                 301

```

<210> 293  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 293  
 ggtaccaagt gctgggtgcca gcctgttacc tgttctcact gaaaagtctg gctaattgctc 60  
 ttgtgtagtc acttctgatt ctgacaatca atcaatcaat ggcctagagc actgactgtt 120  
 aacacaaaacg tctactagcaa agtagcaaca gctttaagtc taaatacaaa gctgttctgt 180  
 gtgagaattt tttaaaaggc tacttgtata ataacccttg tcatttttaa tgtacctcgg 240  
 ccgcgaccac gctaagccga attctgcaga tatccatcac actggcgggc gctcgagcat 300  
 g 301

<210> 294  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 294  
 tgaccataa caatatacac tagctatctt tttactgtc catcattagc accaatgaag 60  
 attcaataaa attaccttta ttcacacatc tcaaaacaat tctgcaaatt cttagtgaag 120  
 tttactata gtcacaganc ttaaatattc acattgtttt ctatgtctac tgaaaataag 180  
 ttcactatt tctgtggata ttctttacaa aatcttatta aaattcctgg tattatcacc 240  
 cccaattata cagtagcaca accaccttat gtagttttta catgatagct ctgtagaggt 300  
 t 301

<210> 295  
 <211> 305  
 <212> DNA  
 <213> Homo sapien

<400> 295  
 gtactctttc tctcccctcc tctgaattta attctttcaa cttgcaattt gcaaggatta 60  
 cacatttcac tgtgatgtat attgtgttgc aaaaaaaaaa gtgtctttgt ttaaaattac 120  
 ttggtttttg aatccatctt gctttttccc cattggaact agtcattaac ccatctctga 180  
 actggtagaa aaacrtctga agagctagtc tatcagcatc tgacaggatga attggatggt 240  
 tctcagaacc atttcaccca gacagcctgt ttctatcctg tttataaat tagtttgggt 300  
 tctct 305

<210> 296  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 296  
 aggtactatg ggaagctgct aaaataatat ttgatagtaa aagtatgtaa tgtgctatct 60  
 cacctagtag taaactaaaa ataaactgaa actttatgga atctgaagtt attttccttg 120  
 attaaataga attaataaac caatatgagg aaacatgaaa ccatgcaatc tactatcaac 180  
 tttgaaaaag tgattgaacg aaccacttag ctttcagatg atgaacactg ataagtcatt 240

tgtcattact ataaatttta aaatctgtta ataagatggc ctatagggag gaaaaagggg 300  
c 301

<210> 297  
<211> 300  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(300)  
<223> n = A,T,C or G

<400> 297  
actgagtttt aactggacgc caagcaggca aggctggaag gttttgctct ctttgtgcta 60  
aaggttttga aaaccttgaa ggagaatcat ttgacaaga agtacttaag agtctagaga 120  
acaaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt 180  
tccatcattg ggagtgcact ggccatccct caaaatttgt ctgggctggc ctgagtggtc 240  
accgcacctc ggccgcgacc acgctaagcc gaattctgca gatatccatc acactggcgg 300

<210> 298  
<211> 301  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(301)  
<223> n = A,T,C or G

<400> 298  
tatggggttt gtcacccaaa agctgatgct gagaaaggcc tccctggggc ccctcccgcg 60  
ggcatctgag agacctggtg ttccagtgtt tctggaaatg ggtcccagtg ccgccggctg 120  
tgaagctctc agatcaatca cgggaagggc ctggcggtgg tggccacctg gaaccaccct 180  
gtcctgtctg tttacatttc actaycaggt tttctctggg cattacnatt tgttccccta 240  
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t 301

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<212> DNA  
<213> Homo sapien

<400> 299  
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gagtttcgcc atgttggccg gctgggtctca aactcctgac ctcaagcgac ctgcctgcct 240  
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t 301

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<211> 301  
<212> DNA  
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&lt;400&gt; 300

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gctgcattcc	acaaggttct	cagcctaata	agtttacta	cctgccagtc	tcaaaactta	180
gtaaagcaag	accatgacat	tccccacgg	aaatcagagt	ttgccccacc	gtcttggtac	240
tataaagcct	gcctctaaca	gtccttgctt	cttcacacca	atccccgagcg	catcccccat	300
g						301

&lt;210&gt; 301

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 301

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gggaactcac	aaagaccctc	agagctgaga	caccacacac	agtgggagct	cacaaagacc	180
ctcagagctg	agacaccac	aacagtggga	gtcacaaaag	accctcagag	ctgagacacc	240
cacaacagca	cctcgttcag	ctgccacatg	tgtgaataag	gatgcaatgt	ccagaagtgt	300
t						301

&lt;210&gt; 302

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 302

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ccacatcatt	aatgactgac	ttcccagtaa	ggctctctaa	ggggtaagta	ggaggatcca	240
caggatttga	gatgctaagg	ccccagagat	cgtttgatcc	aaccctctta	ttttcagagg	300
g						301

&lt;210&gt; 303

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 303

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c						301

&lt;210&gt; 304

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 304

acatggatgt	tattttgcag	actgtcaacc	tgaatttgta	tttgcttgac	attgcctaata	60
------------	------------	------------	------------	------------	-------------	----



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tattagtttc agtttcagct taccactttt ttgtctgcaa catgcaraas agacagtgcc      120
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gactttcagc cacttgggta aggtggagtt ggccatatgt ctccactgca aaattactga      240
ttttcctttt gtaattaata agtgtgtgtg tgaagattct ttgagatgag gtatatatct      300
c                                                                           301

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&lt;210&gt; 305

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 305

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caggggggaca gacctggaca gacacgttgt catttgctgc tgtgggtagg aaaatgggcg      120
taaaggagga gaaacagata caaaatctcc aactcagtat taaggatttc tcatgcctag      180
aatattggta gaaacaagaa tacattcata tggcaaataa ctaaccatgg tggaacaaaa      240
ttctgggatt taagttggat accaangaaa ttgtattaaa agagctgttc atggaataag      300
a                                                                           301

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&lt;210&gt; 306

&lt;211&gt; 8

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 306

Val Leu Gly Trp Val Ala Glu Leu

1

5

&lt;210&gt; 307

&lt;211&gt; 637

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 307

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acagggtratg aagggaagg gagaggatga ggaagcccc ctggggattt ggtttgggtcc      60
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attgaggaat gatacttgag cccaaagagc attcaatcat tgttttattt gccttmtttt      180
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cacatagcac cggagatatg agatcaacag tttcttagcc atagagattc acagcccaga      300
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actcattagg ctgagaacct tgtggaatgc acttgaccca sctgatagag gaagtagcca      540
ggtagggagcc tttccagtg ggtgtgggac atatctggca agattttgtg gcactcctgg      600
ttacagatac tggggcagca aataaaactg aatcttg                                     637

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&lt;210&gt; 308

&lt;211&gt; 647

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(647)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 308

acgattttca	ttatcatgta	aatcgggtca	ctcaaggggc	caaccacagc	tgggagccac	60
tgctcagggg	aaggttcata	tgggactttc	tactgccccaa	ggttctatac	aggatataaa	120
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ccacccctct	gacccttttg	aactcctctg	accctttaga	acaagcctac	ctaatatctg	240
ctagagaaaa	gaccaacaac	ggcctcaaag	gatctcttac	catgaaggtc	tcagctaatt	300
cttggctaag	atgtgggttc	cacattaggt	tctgaatatg	gggggaaggg	tcaatttgct	360
cattttgtgt	gtggataaa	tcaggatgcc	cagggggccag	agcagggggc	tgcttgcttt	420
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ggaccagttt	gagtggcaac	aatgcagcag	cagaatcaat	ggaaacaaca	gaatgattgc	600
aatgtccttt	ttttctcct	gcttctgact	tgataaaaag	ggaccgt		647

&lt;210&gt; 309

&lt;211&gt; 460

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 309

actttatagt	ttaggctgga	cattggaaaa	aaaaaaaaagc	cagaacaaca	tgtgatagat	60
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accaaacatc	atgccagaat	actcagcaaa	ccttcttagc	tcttgagaag	tcaaagtccg	240
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ttgtcttggt	tttgtctttc	ggtgtgtaag	attcttaagt			460

&lt;210&gt; 310

&lt;211&gt; 539

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 310

acgggactta	tcaaataaag	ataggaaaag	aagaaaactc	aaatattata	ggcagaaatg	60
ctaaaggttt	taaaatatgt	caggattgga	agaaggcatg	gataaagaac	aaagttcagt	120
taggaaagag	aaacacagaa	ggaagagaca	caataaaaagt	cattatgtat	tctgtgagaa	180
gtcagacagt	aagattttgt	ggaaatgggt	tggtttgttg	tatgggtatg	attttagcaa	240
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ctagatagaa	agccttagta	tactcagcta	ggaatagtga	ttctgagggc	acactgtgac	420
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atattttcac	ccccacaaa	gtcagttaaa	tattgggaca	ctaaccatcc	aggtcaaga	539

&lt;210&gt; 311

&lt;211&gt; 526

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(526)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 311

caaatttgag ccaatgacat agaattttac aaatcaagaa gcttattctg gggccatttc	60
ttttgacgtt ttctctaaac tactaaagag gcattaatga tccataaatt atattatcta	120
catttacagc atttaaaatg tggtcagcat gaaatattag ctacagggga agctaaataa	180
attaaacatg gaataaagat ttgtccttaa atataatcta caagaagact ttgatatttg	240
tttttcacaa gtgaagcatt cttataaagt gtcataacct ttttggggaa actatgggaa	300
aaaatgggga aactctgaag gggttttaagt atcttacctg aagctacaga ctccataacc	360
tctctttaca gggagctcct gcagccccta cagaaatgag tggctgagat tcttgattgc	420
acagcaagag cttctcatct aaaccctttc cctttttagt atctgtgtat caagtataaa	480
agttctataa actgtagtnt acttatttta atccccaaag cacagt	526

&lt;210&gt; 312

&lt;211&gt; 500

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(500)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 312

cctctctctc cccaccccct gactctagag aactgggttt tctcccagta ctccagcaat	60
tcatttctga aagcagttga gccactttat tccaaagtag actgcagatg ttcaaactct	120
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gcattaagga cattatgctt cttcgattct gaagacaggc cctgctcatg gatgactctg	240
gcttcttagg aaaatatttt tcttccaaaa tcagtaggaa atctaaactt atccccctt	300
tgcagatgct tagcagcttc agacatttgg ttaagaaccc atgggaaaaa aaaaaatcct	360
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tagtcttaat tatctattgg	500

&lt;210&gt; 313

&lt;211&gt; 718

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(718)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 313

ggagatttgt gtggtttgca gccgagggag accaggaaga tctgcatggt gggaaggacc	60
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ctgctgaaat ggagataatt aacatcacta gaaacagcaa gatgacaata taatgtctaa	180
gtagtacat gtttttgcac atttccagcc ctttttaata tccacacaca caggaagcac	240
aaaaggaagc acagagatcc ctgggagaaa tgcccggccg ccattctggg tcatcgatga	300
gcctcgccct gtgcctgntc ccgcttgatg ggggaaggaca ttagaaaatg aattgatgtg	360
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aactggggag gagataccac ggggcagagg tcaggattct ggccctgctg cctaactgtg	600
cgttatacca atcatttcta tttctaccct caaacaagct gtngaatac tgacttacgg	660
ttctnttggc ccacatttcc atnatccacc cctcctnttt aannttantic caaantgt	718

&lt;210&gt; 314

&lt;211&gt; 358

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 314

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caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg tgtagtccaa	180
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&lt;210&gt; 315

&lt;211&gt; 341

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 315

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gacccccatt ctgaagatgt ctggaacctc taccagcagg atgatgatag cccaatgac	180
agtcaccagc tccccgacca gccggatata gtccttaggg gtcatgtagg cttcctgaag	240
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gagggggcg tagatgcagc acatgggtgaa gcagatgatg t	341

&lt;210&gt; 316

&lt;211&gt; 151

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 316

agactgggca agactcttac gcccacact gcaatttggg cttgttgccg tatccattta	60
tgtgggcctt tctcgagttt ctgattataa acaccactgg agcgatgtgt tgactggact	120
cattcagggg gctctggttg caatattagt t	151

&lt;210&gt; 317

&lt;211&gt; 151

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 317

agaactagtg gatcctaagt aaataacctga aacatatatt ggcatttata aatggctcaa	60
atcttcattt atctctggcc ttaaccctgg ctcttgaggc tgcgccagc agatcccagg	120
ccagggctct gttcttgcca cacctgcttg a	151

&lt;210&gt; 318

&lt;211&gt; 151

&lt;212&gt; DNA

<213> Homo sapien

<400> 318

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gctgcaggct ggagtgtctt tttcctggc gggagaccgc acattccact gctgaggctg	120
tgggggcggt ttatcaggca gtgataaaca t	151

<210> 319

<211> 151

<212> DNA

<213> Homo sapien

<400> 319

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catagatagt actaggtatt aatagatatg taaagaaaga aatcacacca ttaataatgg	120
taagattggg tttatgtgat tttagtggg a	151

<210> 320

<211> 150

<212> DNA

<213> Homo sapien

<400> 320

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gagcggctgc cttttttttt ttttttttg ggggggaatt tttttttttt aatagttatt	120
gagtgttcta cagcttacag taaataccat	150

<210> 321

<211> 151

<212> DNA

<213> Homo sapien

<400> 321

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tagggtggca ttgtaaccag ctatggcata ggtgttaacc aaaggctgag taaacatggg	120
tgctctgag aatcaaagt cttcatacac t	151

<210> 322

<211> 151

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(151)

<223> n = A,T,C or G

<400> 322

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attgtgcagg gctcgttca nacttccagt t	151

<210> 323

<211> 151

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(151)

<223> n = A,T,C or G

<400> 323

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nagactcant tactaccag tttgtgggtt twtgggagaa atgtaactgg	acagttagct	120
gttcaatyaa aaagacactt ancccatgtg g		151

<210> 324

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(461)

<223> n = A,T,C or G

<400> 324

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agaagtggc agctaaagga atccagggtt ttggttgac tgtaataacc	tttgatgaaa	120
agagttacta cgaatcccat cttgggtcca gctatatcac tgacagcatg	gtagaagact	180
gcgaacctca cttctagact ttcacgggtg gacgaaacgg gttcagaaac	tgccaggggc	240
ctcatacagg gatatcaaaa taccctttgt gctaccagg cctggggaa	tcaggtgact	300
cacacaaatg caatagttg tcaactgcatt tttacctgaa ccaaagctaa	acccggtgtt	360
gccaccatgc accatggcat gccagagttc aacactgttg ctcttgaaaa	ttgggtctga	420
aaaaacgcac aagagcccct gccctgcct agctgangca c		461

<210> 325

<211> 400

<212> DNA

<213> Homo sapien

<400> 325

acactgtttc catgttatgt ttctacacat tgctacctca gtgctcctgg	aaacttagct	60
tttgatgtct ccaagtagtc caccttcatt taactctttg aaactgtatc	atctttgcca	120
agtaagagtg gtggcctatt tcagctgctt tgacaaaatg actggctcct	gacttaacgt	180
tctataaatg aatgtgctga agcaaagtgc ccatgggtggc ggcgaagaag	agaaagatgt	240
gttttgtttt ggactctctg tggctccttc caatgctgtg ggtttccaac	caggggaagg	300
gtcccttttg cattgccaag tgccataacc atgagcacta cgctaccatg	gttctgcctc	360
ctggccaagc aggtgtgttt gcaagaatga aatgaatgat		400

<210> 326

<211> 1215

<212> DNA

<213> Homo sapien

<400> 326

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gaactcctac accatcgggc tgggcctgca cagtcttgag gccgaccaag	agccaggagg	180

ccagatggtg	gaggccagcc	tctccgtacg	gcacccagag	tacaacagac	ccttgctcgc	240
taacgacctc	atgctcatca	agttggacga	atccgtgtcc	gagtcctgaca	ccatccggag	300
catcagcatt	gcttcgcagt	gccctaccgc	ggggaactct	tgcctcgttt	ctggctgggg	360
tctgctggcg	aacggcagaa	tgcctaccgt	gctgcagtgc	gtgaacgtgt	cggtggtgtc	420
tgaggaggtc	tgcagtaagc	tctatgaccc	gctgtaccac	cccagcatgt	tctgcgccgg	480
cggagggcaa	gaccagaagg	actcctgcaa	cggtgactct	ggggggcccc	tgatctgcaa	540
cgggtacttg	cagggccttg	tgtctttcgg	aaaagccccg	tgtggccaag	ttggcggtgcc	600
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cctccctcag	actcagaggt	ccaagccccc	aaccctctct	tccccagacc	cagagggtcc	1020
ggtcccagcc	cctcctccct	cagacccagc	ggtccaatgc	cacctagact	ctccctgtac	1080
acagtgcccc	cttgtggcac	gttgacccaa	ccttaccagt	tggtttttca	ttttttgtcc	1140
ctttccccta	gatccagaaa	taaagtctaa	gagaagcgca	aaaaaaaaaa	aaaaaaaaaa	1200
aaaaaaaaaa	aaaaaa					1215

&lt;210&gt; 327

&lt;211&gt; 220

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 327

Glu	Asp	Cys	Ser	Pro	His	Ser	Gln	Pro	Trp	Gln	Ala	Ala	Leu	Val	Met	
1				5				10						15		
Glu	Asn	Glu	Leu	Phe	Cys	Ser	Gly	Val	Leu	Val	His	Pro	Gln	Trp	Val	
			20					25					30			
Leu	Ser	Ala	Ala	His	Cys	Phe	Gln	Asn	Ser	Tyr	Thr	Ile	Gly	Leu	Gly	
			35					40					45			
Leu	His	Ser	Leu	Glu	Ala	Asp	Gln	Glu	Pro	Gly	Ser	Gln	Met	Val	Glu	
			50					55					60			
Ala	Ser	Leu	Ser	Val	Arg	His	Pro	Glu	Tyr	Asn	Arg	Pro	Leu	Leu	Ala	
					70					75					80	
Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asp	Glu	Ser	Val	Ser	Glu	Ser	Asp	
					85					90					95	
Thr	Ile	Arg	Ser	Ile	Ser	Ile	Ala	Ser	Gln	Cys	Pro	Thr	Ala	Gly	Asn	
					100					105					110	
Ser	Cys	Leu	Val	Ser	Gly	Trp	Gly	Leu	Leu	Ala	Asn	Gly	Arg	Met	Pro	
					115					120					125	
Thr	Val	Leu	Gln	Cys	Val	Asn	Val	Ser	Val	Val	Ser	Glu	Glu	Val	Cys	
					130					135					140	
Ser	Lys	Leu	Tyr	Asp	Pro	Leu	Tyr	His	Pro	Ser	Met	Phe	Cys	Ala	Gly	
					145					150					155	
Gly	Gly	Gln	Asp	Gln	Lys	Asp	Ser	Cys	Asn	Gly	Asp	Ser	Gly	Gly	Pro	
					165					170					175	
Leu	Ile	Cys	Asn	Gly	Tyr	Leu	Gln	Gly	Leu	Val	Ser	Phe	Gly	Lys	Ala	
					180					185					190	
Pro	Cys	Gly	Gln	Val	Gly	Val	Pro	Gly	Val	Tyr	Thr	Asn	Leu	Cys	Lys	
					195					200					205	
Phe	Thr	Glu	Trp	Ile	Glu	Lys	Thr	Val	Gln	Ala	Ser					
					210					215					220	

&lt;210&gt; 328

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 328

cgctcgtctc	tggtagctgc	agccaaatca	taaacggcga	ggactgcagc	ccgcactcgc	60
agccctggca	ggcggcactg	gtcatggaaa	acgaattggt	ctgctcgggc	gtcctgggtgc	120
atccgcagtg	ggtgctgtca	gccacacact	gtttccagaa	ctcctacacc	atcgggctgg	180
gcctgcacag	tcttgaggcc	gaccaagagc	cagggagcca	gatggtggag	gcca	234

&lt;210&gt; 329

&lt;211&gt; 77

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 329

Leu	Val	Ser	Gly	Ser	Cys	Ser	Gln	Ile	Ile	Asn	Gly	Glu	Asp	Cys	Ser	1	5	10	15
Pro	His	Ser	Gln	Pro	Trp	Gln	Ala	Ala	Leu	Val	Met	Glu	Asn	Glu	Leu	20	25	30	35
Phe	Cys	Ser	Gly	Val	Leu	Val	His	Pro	Gln	Trp	Val	Leu	Ser	Ala	Thr	35	40	45	50
His	Cys	Phe	Gln	Asn	Ser	Tyr	Thr	Ile	Gly	Leu	Gly	Leu	His	Ser	Leu	50	55	60	65
Glu	Ala	Asp	Gln	Glu	Pro	Gly	Ser	Gln	Met	Val	Glu	Ala				70	75		

&lt;210&gt; 330

&lt;211&gt; 70

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 330

cccaacacaa	tggcccgatc	ccatccctga	ctccgccctc	aggatcgctc	gtctctggta	60
gctgcagcca						70

&lt;210&gt; 331

&lt;211&gt; 22

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 331

Gln	His	Asn	Gly	Pro	Ile	Pro	Ser	Leu	Thr	Pro	Pro	Ser	Gly	Ser	Leu	1	5	10	15
Val	Ser	Gly	Ser	Cys	Ser											20			

&lt;210&gt; 332

&lt;211&gt; 2507

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 332

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gtacatcaac	tgttcagctt	cctgggaaaag	tagttgtggt	cacaggagct	aatacaggta	180
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gtccgtactc	gaagacagca	gatggctttg	agatgcacat	aggagtcaac	cacttggggtc	480
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agaaattcta	caatgcaggc	ctggcctact	gtcacagcaa	gctagccaac	atcctcttca	660
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tgggcctccc	aatagactaa	caggcagtcg	cagttggacc	caagagaaga	ctgcagcaga	1020
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&lt;210&gt; 333

&lt;211&gt; 3030

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 333

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&lt;210&gt; 334

&lt;211&gt; 2417

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 334

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&lt;210&gt; 335

&lt;211&gt; 2984

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 335

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&lt;210&gt; 336

&lt;211&gt; 147

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 336

Pro	Ser	Phe	Pro	Thr	Leu	Leu	Ser	Arg	Arg	His	Leu	Gly	Ser	Tyr	Leu
1				5				10						15	
Leu	Asp	Ser	Glu	Asn	Thr	Ser	Gly	Ala	Leu	Pro	Arg	Leu	Pro	Gln	Thr
			20					25					30		
Pro	Lys	Gln	Pro	Gln	Lys	Arg	Ser	Arg	Ala	Ala	Phe	Ser	His	Thr	Gln
		35					40					45			
Val	Ile	Glu	Leu	Glu	Arg	Lys	Phe	Ser	His	Gln	Lys	Tyr	Leu	Ser	Ala
	50					55					60				
Pro	Glu	Arg	Ala	His	Leu	Ala	Lys	Asn	Leu	Lys	Leu	Thr	Glu	Thr	Gln
65					70					75					80

Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln  
                     85                    90                    95  
 Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala  
                     100                    105                    110  
 Leu Lys Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn  
                     115                    120                    125  
 Ser Tyr Pro Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro  
                     130                    135                    140  
 Ala Phe Trp  
 145

<210> 337  
 <211> 9  
 <212> PRT  
 <213> Homo sapien

<400> 337  
 Ala Leu Thr Gly Phe Thr Phe Ser Ala  
   1                    5

<210> 338  
 <211> 9  
 <212> PRT  
 <213> Homo sapien

<400> 338  
 Leu Leu Ala Asn Asp Leu Met Leu Ile  
   1                    5

<210> 339  
 <211> 318  
 <212> PRT  
 <213> Homo sapien

<400> 339  
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 Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser Gly Val  
                     20                    25                    30  
 Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Val Thr Gly  
                     35                    40                    45  
 Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg  
                     50                    55                    60  
 Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu  
   65                    70                    75                    80  
 Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val  
                     85                    90                    95  
 Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys  
                     100                    105                    110  
 Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala  
                     115                    120                    125  
 Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met  
                     130                    135                    140  
 His Ile Gly Val Asn His Leu Gly His Phe Leu Leu Thr His Leu Leu

145		150		155		160									
Leu	Glu	Lys	Leu	Lys	Glu	Ser	Ala	Pro	Ser	Arg	Ile	Val	Asn	Val	Ser
			165						170					175	
Ser	Leu	Ala	His	His	Leu	Gly	Arg	Ile	His	Phe	His	Asn	Leu	Gln	Gly
		180						185					190		
Glu	Lys	Phe	Tyr	Asn	Ala	Gly	Leu	Ala	Tyr	Cys	His	Ser	Lys	Leu	Ala
		195					200					205			
Asn	Ile	Leu	Phe	Thr	Gln	Glu	Leu	Ala	Arg	Arg	Leu	Lys	Gly	Ser	Gly
	210					215					220				
Val	Thr	Thr	Tyr	Ser	Val	His	Pro	Gly	Thr	Val	Gln	Ser	Glu	Leu	Val
225					230					235				240	
Arg	His	Ser	Ser	Phe	Met	Arg	Trp	Met	Trp	Trp	Leu	Phe	Ser	Phe	Phe
			245					250					255		
Ile	Lys	Thr	Pro	Gln	Gln	Gly	Ala	Gln	Thr	Ser	Leu	His	Cys	Ala	Leu
		260					265						270		
Thr	Glu	Gly	Leu	Glu	Ile	Leu	Ser	Gly	Asn	His	Phe	Ser	Asp	Cys	His
	275					280						285			
Val	Ala	Trp	Val	Ser	Ala	Gln	Ala	Arg	Asn	Glu	Thr	Ile	Ala	Arg	Arg
	290					295					300				
Leu	Trp	Asp	Val	Ser	Cys	Asp	Leu	Leu	Gly	Leu	Pro	Ile	Asp		
305					310					315					

<210> 340  
 <211> 483  
 <212> DNA  
 <213> Homo sapien

<400> 340

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ctcctgctgc	aggctggagt	gtctttattc	ctggcgggag	accgcacatt	ccactgctga	180
ggttggtggg	gcggtttatc	aggcagtgat	aaacataaga	tgatcatttc	ttgactccgg	240
ccttcaattt	tctctttggc	tgacgacgga	gtccgtgggtg	tcccgatgta	actgaccctt	300
gctccaacac	tgacatcact	gatgctcttc	tcgggggtgc	tgatggcccc	cttggtcacg	360
tgctcaatct	cgcatctcga	ctcttgcttc	aaactgtatg	aagacacctg	actgcacgtt	420
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ctg						483

<210> 341  
 <211> 344  
 <212> DNA  
 <213> Homo sapien

<400> 341

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gctgccttac	aagtattaaa	tattttactt	ctttccataa	agagtagctc	aaaatatgca	180
attaatttaa	taattttctga	tgatgggttt	atctgcagta	atatgtatat	catctattag	240
aatttactta	atgaaaaact	gaagagaaca	aaatttgtaa	ccactagcac	ttaagtactc	300
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<210> 342  
 <211> 592  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 342

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cctggcaggt	aaaccaatgc	caagagagt	atggaaacca	ttggcaagac	tttgttgatg	180
accaggattg	gaattttata	aaaatattgt	tgatgggaag	ttgctaaagg	gtgaattact	240
tccctcagaa	gagtgtaaa	aaaagtcaga	gatgctataa	tagcagctat	tttaattggc	300
aagtgccact	gtggaaagag	ttcctgtgtg	tgctgaagtt	ctgaagggca	gtcaaattca	360
tcagcatggg	ctgtttggtg	caaatgcaaa	agcacaggtc	tttttagcat	gctggtctct	420
cccgtgtcct	tatgcaaata	atcgtcttct	tctaaatttc	tcctaggctt	cattttccaa	480
agttcttctt	ggtttgatg	gtcttttctg	ctttccatta	attctataaa	atagtatggc	540
ttcagccacc	cactcttcgc	cttagcttga	ccgtgagtct	cggctgccgc	tg	592

&lt;210&gt; 343

&lt;211&gt; 382

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 343

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aaaccaccaa	gctgaaaaaa	aa				382

&lt;210&gt; 344

&lt;211&gt; 536

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 344

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gtttaggggg	atgccaagga	taaggccagc	tcagttatat	gaagagaagc	agaacaaaca	180
agtctttcag	agaaatggat	gcaatcagag	tgggatcccc	gtcacatcaa	ggtcacactc	240
caccttcatg	tgcctgaatg	gttgccaggt	cagaaaaatc	caccccttac	gagtgcggct	300
tcgaccctat	atcccccgcc	cgcgtccctt	tctccataaa	attcttctta	gtagctatta	360
ccttcttatt	atttgatcta	gaaattgccc	tccttttacc	cctaccatga	gccctacaaa	420
caactaacct	gccactaata	gttatgtcat	ccctcttatt	aatcatcatc	ctagccctaa	480
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&lt;210&gt; 345

&lt;211&gt; 251

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 345

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gcgtgggcca	ggaaatcaca	tcctacactg	cccaggagcc	agacacattt	atggaacaga	180
aaataacata	tcggatttgg	agagacactg	ccaactggct	ggagattaat	ccggacactg	240
gtgccatttc	c					251

<210> 346  
 <211> 282  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(282)  
 <223> n = A,T,C or G

<400> 346  
 cgcgtctctg acactgtgat catgacaggg gttcaaacag aaagtgcctg ggccctcctt 60  
 ctaagtcttg ttacaaaaa aaggaaaaag aaaagatctt ctcaattaca aattctggga 120  
 agggagacta tacctggctc ttgccctaag tgagaggtct tccctcccgc accaaaaaat 180  
 agaaaggctt tctatttcac tggcccaggt agggggaagg agagtaactt tgagtctgtg 240  
 ggtctcattt cccaagggtgc cttcaatgct catnaaaacc aa 282

<210> 347  
 <211> 201  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(201)  
 <223> n = A,T,C or G

<400> 347  
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 taaatataac ttttaaaaana ntactancag cttttaccta ngctcctaaa tgcttgtaaa 120  
 tctgagactg actggaccca cccagaccca gggcaaagat acatgttacc atatcatctt 180  
 tataaagaat ttttttttgt c 201

<210> 348  
 <211> 251  
 <212> DNA  
 <213> Homo sapien

<400> 348  
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 agagagaaca gtgccagaat gaaactgacc ctaagtccca ggtgccctg ggcaggcaga 120  
 aggagacact cccagcatgg aggaggggtt atcttttcat cctaggtcag gtctacaatg 180  
 ggggaagggtt ttattataga actcccaaca gccacactca ctctgccac ccacccgatg 240  
 gccctgcctc c 251

<210> 349  
 <211> 251  
 <212> DNA  
 <213> Homo sapien

<400> 349  
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 aacccctgag gatgccagag ctatgggtcc agaacatggt gtggtattat caacagagtt 120  
 cagaagggtc tgaactctac gtgttaccag agaacataat gcaattcatg cattccactt 180  
 agcaattttg taaaatacca gaaacagacc ccaagagtct ttcaagatga ggaaaattca 240



actcctgggtt t

251

&lt;210&gt; 350

&lt;211&gt; 908

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 350

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agcccccccg	gtgaagctcg	ctgctttccc	tacctcctta	agtgactgcc	aaacgcccac	120
cggctggaat	tgctctgggt	atgatgacag	agaaaatgat	ctcttcctct	gtgacaccaa	180
cacctgtaaa	tttgatgggg	aatgtttaag	aattggagac	actgtgactt	gcgtctgtca	240
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tgagtgttac	ctgcgacagg	ctgcatgcaa	acagcagagt	gagatacttg	tggtgtcaga	360
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aatcgcag						908

&lt;210&gt; 351

&lt;211&gt; 472

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 351

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cattaacttg	attttaaaaa	cagwtttgyg	agtcatttac	cacaagctaa	atgtgtacac	180
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gatctgtcca	caacaaactt	gccctctcat	gccttgccctc	tcaccatgct	ctgctccagg	360
tcagccccct	tttggcctgt	ttgttttgtc	aaaaacctaa	tctgcttctt	gcttttcttg	420
gtaatatata	tttaggggaag	atgttgcttt	gccacacac	gaagcaaagt	aa	472

&lt;210&gt; 352

&lt;211&gt; 251

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 352

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caggctgcgt	tccgtcctta	cgatgaagac	cacgatgcag	tttccaaaca	ttgccactac	180
atacatggaa	aggaggggga	agccaaccca	gaaatgggct	ttctctaate	ctgggatacc	240
aataagcaca	a					251

&lt;210&gt; 353

&lt;211&gt; 436

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 353

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cacattatgg	tattattact	atactgatta	tatttatcat	gtgacttcta	attaraaaat	120
gtatccaaaa	gcaaaacagc	agatatata	aattaaagag	acagaagata	gacattaaca	180
gataaggcaa	cttatacatt	gacaatccaa	atccaatata	tttaaacatt	tgaggaaatga	240
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tcatgtctga	raaggctctc	ccttcaatgg	ggatgacaaa	ctccaaatgc	cacacaaatg	360
ttaacagaat	actagattca	cactggaacg	ggggtaaaga	agaaattatt	ttctataaaa	420
gggctcctaa	tgtagt					436

&lt;210&gt; 354

&lt;211&gt; 854

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 354

ccttttctag	ttcaccagtt	ttctgcaagg	atgctgggta	gggagtgtct	gcaggaggag	60
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&lt;210&gt; 355

&lt;211&gt; 676

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 355

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gggtgtctcat	ttgagtgtctg	tccagtgcac	tgatcaagtc	aatgagtaaa	attttaaggg	600
attagatttt	cttgactttgt	atgtatctgt	gagatcttga	ataagtgacc	tgacatctct	660
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&lt;210&gt; 356

&lt;211&gt; 574

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 356

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catgtggcac ctgactggca tcaaaccaaa gtctgtaggc caacaaagat gggccactca	120
caagcttccc atttgtagat ctcatgtcct atgagtatct gacacctgtt cctctcttca	180
gtctcttagg gaggtctaaa tctgtctcag gtgtgctaag agtgccagcc caaggkgtc	240
aaaagtcac aaaactgcag tctttgctgg gatagtaagc caagcagtgc ctggacagca	300
gagttctttt ctggggcaac agataaccag acaggactct aatcgtgctc ttattcaaca	360
ttcttctgtc tctgcctaga ctggaataaa aagccaatct ctctcgtggc acaggggaagg	420
agatacaagc tcgtttacat gtgatagatc taacaaaggc atctaccgaa gtctggtctg	480
gatagacggc acagggagct cttaggtcag cgctgctggt tggaggacat tcctgagtc	540
agcttttgca cttttgtgca acagtacttt ccca	574

&lt;210&gt; 357

&lt;211&gt; 393

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 357

tttttttttt tttttttttt tttttttttt tacagaatat aratgcttta tcactgkact	60
taatatggkg kcttggtcac tatacttaaa aatgcaccac tcataaatat ttaattcagc	120
aagccacaac caaracttga ttttatcaac aaaaaccctt aaatataaac ggsaaaaaag	180
atagatataa ttattccagt ttttttaaaa cttaaaarat attccattgc cgaattaara	240
araarataag tggttatatg aaagaagggc attcaagcac actaaaraaa cctgaggkaa	300
gcataatctg tacaaaatta aactgtcctt tttggcattt taacaaattt gcaacgktct	360
tttttttctt tttctgtttt tttttttttt tac	393

&lt;210&gt; 358

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 358

acagggtaaa caggaggatc ctgctctca cggagcttac attctagcag gaggacaata	60
ttaatgttta taggaaaatg atgagtttat gacaaaggaa gtagatagt ttttacaaga	120
gcatagagta ggggaagctaa tccagcacag ggaggtcaca gagacatccc taaggaagt	180
gagtttaaac tgagagaagc aagtgcctaa actgaaggat gtgttgaaga agaagggaga	240
gtagaacaat ttgggcagag ggaaccttat agaccctaag gtgggaagg tcaaagaact	300
gaaagagagc tagaacagct ggagccgttc tccggtgtaa agaggagtca aagagataag	360
attaaagatg tgaagattaa gatcttggtg gcattcaggg attggcactt ctacaagaaa	420
tcactgaagg gagtaatgtg acattacttt tcacttcagg atggccattc taactccagg	480
gggtagactg gactaggtaa gactggaggg aggtagacct cttctaaggc ctgcatagt	540
gaaagacaaa aataagtggg gaaattcagg ggatagtga aatcagtagg acttaatgag	600
caagccagag gttcctccac aacaaccagt	630

&lt;210&gt; 359

&lt;211&gt; 620

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 359

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taattaaaa atgctactaa tatagaaaat ttataatcag aaaaataaat attcagggag	120

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aatgtcattg	acttatcaaa	tactatcttg	gcatataacc	tatgaaggca	aaactaaaca	540
aacaaaaagc	tcacaccaaa	caaaaccatc	aacttatttt	gtattctata	acatacgaga	600
ctgtaaagat	gtgacagtgt					620

&lt;210&gt; 360

&lt;211&gt; 431

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 360

aaaaaaaaaa	agccagaaca	acatgtgata	gataatatga	ttggctgcac	acttccagac	60
tgatgaatga	tgaacgtgat	ggactattgt	atggagcaca	tcttcagcaa	gagggggaaa	120
tactcatcat	ttttggccag	cagttgtttg	atcaccaaac	atcatgccag	aatactcagc	180
aaaccttctt	agctcttgag	aagtcaaagt	ccgggggaat	ttattcctgg	caattttaat	240
tggactcctt	atgtgagagc	agcggctacc	cagctggggg	ggtggagcga	acccgtcact	300
agtggacatg	cagtggcaga	gctcctggta	accacctaga	ggaatacaca	ggcacatgtg	360
tgatgccaag	cgtgacacct	gtagcactca	aatttgtctt	gtttttgtct	ttcgggtgtgt	420
agattcttag	t					431

&lt;210&gt; 361

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 361

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actttcttct	cagaagatag	ggcacagcca	ttgccttggc	ctcacttgaa	gggtctgcat	120
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caatcctgga	ttcaatgtct	gaaacctcgc	tctctgacct	ctggacttct	gaggccgtca	300
ctgccactct	gtcctccagc	tctgacagct	cctcatctgt	ggtcctgttg	t	351

&lt;210&gt; 362

&lt;211&gt; 463

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 362

acttcatcag	gccataatgg	gtgcctcccg	tgagaatcca	agcacctttg	gactgcgcga	60
tgtagatgag	ccggctgaag	atcttgcgca	tgcgcggctt	cagggcgaaag	ttcttggcgc	120
ccccgggtcag	agaaatgacc	aggttgggtg	ttttcagggtg	ccagtgtctgg	gtcagcagct	180
cgtaaaggat	ttccgcgtcc	gtgtcgcagg	acagacgtat	atacttccct	ttcttcccca	240
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agttccattt	ctcacttttg	ttgatctggg	tgccttccat	gtgctggctc	tgggcatagc	360
cacacttgca	cacattctcc	ctgataagca	cgatgggtgtg	gacaggaagg	aaggatttca	420
ttgagcctgc	ttatggaaac	tggatttgtt	agcttaaata	gac		463

&lt;210&gt; 363

&lt;211&gt; 653

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(653)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 363

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cccgtctcag	attccctcag	acctttgccg	gtcccattat	tggtctstggt	ggt	653

&lt;210&gt; 364

&lt;211&gt; 401

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 364

actagaggaa	agacgttaaa	ccactctact	accacttgtg	gaactctcaa	agggtaaatg	60
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tgagaaagct	caattataga	tgcaaagtta	taactaaact	actatagtag	taaagaaata	240
catttcacac	ccttcatata	aattcactat	cttggcttga	ggcactccat	aaaatgtatc	300
acgtgcatag	taaatcttta	tatttgctat	ggcgttgcac	tagaggactt	ggactgcaac	360
aagtggatgc	gcggaaaatg	aaatcttctt	caatagccca	g		401

&lt;210&gt; 365

&lt;211&gt; 356

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 365

ccagtgtcat	atttgggctt	aaaatttcaa	gaagggcact	tcaaattggct	ttgcatttgc	60
atgtttcagt	gctagagcgt	aggaatagac	cctggcgctc	actgtgagat	gttcttcagc	120
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&lt;210&gt; 366

&lt;211&gt; 1851

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 366

tcatcaccat	tgccagcagc	ggcaccgtta	gtcaggtttt	ctgggaatcc	cacatgagta	60
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cttccgtggt	cttcattctt	cttcaatagc	cataaatctt	ctagctctgg	ctggctgttt	120
tcacttcctt	taagcctttg	tgactcttcc	tctgatgtca	gctttaagtc	ttgttctgga	180
ttgctgtttt	cagaagagat	ttttaacatc	tgtttttctt	tgtatgcaga	aagtaactgg	240
caaattacat	gatgatgact	agaaacagca	tactctctgg	ccgtctttcc	agatcttgag	300
aagatacatc	aacattttgc	tcaagtagag	ggctgactat	acttgctgat	ccacaacata	360
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ggccatgctt	gttttttgat	tcgatatacg	caccgtataa	gagcagtgct	ttggccatta	540
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&lt;210&gt; 367

&lt;211&gt; 668

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 367

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aaaaaaaa						668

&lt;210&gt; 368

&lt;211&gt; 1512

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 368

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&lt;210&gt; 369

&lt;211&gt; 1853

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 369

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gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
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caaaggctta	aaggaagtga	aaacagccag	ccagaggcat	ggaaactttt	aaatttaaac	1440
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ggagaatggc	atgaaccg	gaggtggagg	ttgcagtga	ccgagatccg	ccactacact	1800
ccagcctggg	tgacagagca	agactctgtc	tcaaaaaaaaa	aaaaaaaaaa	aaa	1853

&lt;210&gt; 370

&lt;211&gt; 2184

&lt;212&gt; DNA

&lt;213&gt; Homo. sapien

&lt;400&gt; 370

ggcacgagaa	ttaaaaccct	cagcaaaaca	ggcatagaag	ggacatacct	taaagtaata	60
aaaaccacct	atgacaagcc	cacagccaac	ataatactaa	atggggaaaa	gttagaagca	120
tttctctctg	gaactgcaac	aataaatata	aggatgctgg	attttgtcaa	atgccttttc	180
tgtgtctgtt	gagatgctta	tgtgactttg	cttttaattc	tgtttatgtg	attatcacat	240
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<213> Homo sapien  
  
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<211> 1059  
<212> DNA  
<213> Homo sapien

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&lt;210&gt; 373

&lt;211&gt; 1155

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 373

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&lt;210&gt; 374

&lt;211&gt; 2000

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 374

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 <213> Homo sapien

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&lt;210&gt; 376

&lt;211&gt; 329

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 376

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Leu His Leu Ala Gly Ser Asp Leu Leu Ser Arg Ser Leu Met Ala Glu
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Glu Tyr Thr Ile Val His Ala Ser Phe Ile Ser Cys Ile Ser Ser Ser
35      40      45
Leu Asp Gly Gln Gly Glu Arg Gln Glu Gln Arg Gly His Phe Trp Arg
50      55      60
Pro Gln Arg Leu Leu Cys Glu Asp Ala Trp Glu Gln Glu Val Gln Val
65      70      75      80
Val Leu Pro Leu Leu Pro Leu Leu Gln Gly Ser Gly Lys Ser Asn Val
85      90      95
Val Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr
100     105     110
His Val His Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp
115     120     125
Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
130     135     140
Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
145     150     155     160
Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
165     170     175
Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
180     185     190
Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
195     200     205
Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
210     215     220
Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
225     230     235     240
Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
245     250     255
Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
260     265     270
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275     280     285
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<210> 377
<211> 148
<212> PRT
<213> Homo sapien
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His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp
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 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His  
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 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met  
 145 150 155 160  
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 165 170 175  
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu  
 180 185 190  
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 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met  
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 225 230 235 240  
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys  
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 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly  
 260 265 270  
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val  
 275 280 285  
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr  
 290 295 300  
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile  
 305 310 315 320  
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu  
 325 330 335  
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val  
 340 345 350  
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile  
 355 360 365  
 Ser Ser Glu Asn Ser Asn Pro Glu Asn Val Ser Arg Thr Arg Asn Lys  
 370 375 380  
 Pro Arg Thr His Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser  
 385 390 395 400  
 Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys  
 405 410 415  
 Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly  
 420 425 430  
 Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys  
 435 440 445  
 Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly  
 450 455 460  
 Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys  
 465 470 475 480  
 Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys  
 485 490 495  
 Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp  
 500 505 510  
 Asp Ser Ala Phe Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu  
 515 520 525

Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp  
 530 535 540  
 Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln  
 545 550 555 560  
 Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val  
 565 570 575  
 Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn  
 580 585 590  
 Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu  
 595 600 605  
 Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp  
 610 615 620  
 Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys  
 625 630 635 640  
 Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys  
 645 650 655  
 Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys  
 660 665 670  
 Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala  
 675 680 685  
 Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly  
 690 695 700  
 Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser  
 705 710 715 720  
 Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser  
 725 730 735  
 His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln  
 740 745 750  
 Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys  
 755 760 765  
 Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser  
 770 775 780  
 Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp  
 785 790 795 800  
 Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly  
 805 810 815  
 Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn  
 820 825 830  
 Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe  
 835 840 845  
 Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser  
 850 855 860  
 Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn  
 865 870 875 880  
 Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu  
 885 890 895  
 Glu Gly Ser Glu Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile  
 900 905 910  
 Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn  
 915 920 925  
 Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro  
 930 935 940  
 Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu  
 945 950 955 960  
 Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe

965 970 975  
 Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His  
 980 985 990  
 Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser  
 995 1000 1005  
 Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu  
 1010 1015 1020  
 Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His  
 1025 1030 1035 104  
 Gln Ser Gln Leu Pro Arg Thr His Met Val Val Glu Val Asp Ser Met  
 1045 1050 1055  
 Pro Ala Ala Ser Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met  
 1060 1065 1070  
 Gly Lys Trp Cys Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys  
 1075 1080 1085  
 Ser Asn Val Gly Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr  
 1090 1095 1100  
 Leu Arg Ser Lys Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys  
 1105 1110 1115 112  
 Arg Gly Ser Gly Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp  
 1125 1130 1135  
 Ser Ala Met Lys Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His  
 1140 1145 1150  
 Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp  
 1155 1160 1165  
 Gly Asp Tyr Asp Asp Ser Ala Phe Met Glu Pro Arg Tyr His Val Arg  
 1170 1175 1180  
 Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val  
 1185 1190 1195 120  
 Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys  
 1205 1210 1215  
 Lys Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly  
 1220 1225 1230  
 Asn Ser Glu Val Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn  
 1235 1240 1245  
 Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys  
 1250 1255 1260  
 Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro  
 1265 1270 1275 128  
 Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr  
 1285 1290 1295  
 Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp  
 1300 1305 1310  
 Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Gly Val  
 1315 1320 1325  
 His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala  
 1330 1335 1340  
 Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala  
 1345 1350 1355 136  
 Val Cys Cys Gly Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn  
 1365 1370 1375  
 Ile Asp Val Ser Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr  
 1380 1385 1390  
 Ala Val Ser Ser His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr  
 1395 1400 1405



Lys Glu Lys Gln Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu  
 1410 1415 1420  
 Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly  
 1425 1430 1435 144  
 Ser Glu Asn Ser Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn  
 1445 1450 1455  
 Lys Asp Gly Asp Arg Glu Val Glu Glu Met Lys Lys His Glu Ser  
 1460 1465 1470  
 Asn Asn Val Gly Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly  
 1475 1480 1485  
 Asn Gly Asp Asn Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu  
 1490 1495 1500  
 Asn Gln Gln Phe Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys  
 1505 1510 1515 152  
 Glu Leu Val Ser Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser  
 1525 1530 1535  
 Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu  
 1540 1545 1550  
 Ser Gln Arg Leu Glu Gly Ser Glu Asn Gly Gln Pro Glu Lys Arg Ser  
 1555 1560 1565  
 Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Leu Glu Asn Phe  
 1570 1575 1580  
 Met Ala Ile Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe  
 1585 1590 1595 160  
 Pro Glu Asn Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly  
 1605 1610 1615  
 Leu Ile Pro Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro  
 1620 1625 1630  
 Asp Thr Glu Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln  
 1635 1640 1645  
 Lys Gln Phe Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile  
 1650 1655 1660  
 Leu Ile His Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser  
 1665 1670 1675 168  
 Glu Leu Ser Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn  
 1685 1690 1695  
 Ser Thr Leu Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr  
 1700 1705 1710  
 Met Lys His Gln Ser Gln Leu  
 1715

&lt;210&gt; 379

&lt;211&gt; 656

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 379

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys  
 1 5 10 15  
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe  
 20 25 30  
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp  
 35 40 45  
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp  
 50 55 60

Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val  
 65 70 75 80  
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn  
 85 90 95  
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser  
 100 105 110  
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe  
 115 120 125  
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His  
 130 135 140  
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met  
 145 150 155 160  
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala  
 165 170 175  
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu  
 180 185 190  
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr  
 195 200 205  
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met  
 210 215 220  
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn  
 225 230 235 240  
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys  
 245 250 255  
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly  
 260 265 270  
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val  
 275 280 285  
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr  
 290 295 300  
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile  
 305 310 315 320  
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu  
 325 330 335  
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val  
 340 345 350  
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile  
 355 360 365  
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu  
 370 375 380  
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys  
 385 390 395 400  
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu  
 405 410 415  
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn  
 420 425 430  
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro  
 435 440 445  
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu  
 450 455 460  
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu  
 465 470 475 480  
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp  
 485 490 495  
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu

500 505 510  
 Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys  
 515 520 525  
 Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly  
 530 535 540  
 Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser  
 545 550 555 560  
 Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr  
 565 570 575  
 His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln  
 580 585 590  
 Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln  
 595 600 605  
 Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys  
 610 615 620  
 Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile  
 625 630 635 640  
 Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu  
 645 650 655

&lt;210&gt; 380

&lt;211&gt; 671

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 380

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys  
 1 5 10 15  
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe  
 20 25 30  
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp  
 35 40 45  
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp  
 50 55 60  
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val  
 65 70 75 80  
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn  
 85 90 95  
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser  
 100 105 110  
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe  
 115 120 125  
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His  
 130 135 140  
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met  
 145 150 155 160  
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala  
 165 170 175  
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu  
 180 185 190  
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr  
 195 200 205  
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met  
 210 215 220  
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn

225 230 235 240  
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys  
 245 250 255  
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly  
 260 265 270  
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val  
 275 280 285  
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr  
 290 295 300  
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile  
 305 310 315 320  
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu  
 325 330 335  
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val  
 340 345 350  
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile  
 355 360 365  
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu  
 370 375 380  
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys  
 385 390 395 400  
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu  
 405 410 415  
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn  
 420 425 430  
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro  
 435 440 445  
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu  
 450 455 460  
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu  
 465 470 475 480  
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp  
 485 490 495  
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu  
 500 505 510  
 Asn Gly Gln Pro Glu Lys Arg Ser Gln Glu Pro Glu Ile Asn Lys Asp  
 515 520 525  
 Gly Asp Arg Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys Lys  
 530 535 540  
 His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly Ala  
 545 550 555 560  
 Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser Arg  
 565 570 575  
 Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr His  
 580 585 590  
 Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln Asn  
 595 600 605  
 Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln Ile  
 610 615 620  
 Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys Lys  
 625 630 635 640  
 Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile Ala  
 645 650 655  
 Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu  
 660 665 670

<210> 381  
 <211> 251  
 <212> DNA  
 <213> Homo sapien

<400> 381  
 ggagaagcgt ctgctggggc aggaaggggt ttccctgccc tctcaectgt ccctcaccaa 60  
 ggtaacatgc ttcccctaag ggtatcccaa cccagggggc tcaccatgac ctctgagggg 120  
 ccaatatccc aggagaagca ttggggagtt gggggcaggt gaaggaccca ggactcacac 180  
 atcctggggc tccaaggcag aggagaggggt cctcaagaag gtcaggagga aaatccgtaa 240  
 caagcagtca g 251

<210> 382  
 <211> 3279  
 <212> DNA  
 <213> Homo sapiens

<400> 382  
 ctctcctgcag ccccatgct ggtgaggggc acgggcagga acagtggacc caacatggaa 60  
 atgctggagg gtgtcaggaa gtgatcgggc tctggggcag ggaggagggg tggggagtgt 120  
 cactgggagg ggacatcctg cagaaggtag gagtgcagaa acaccgctg caggggaggg 180  
 gagagccctg cggcacctgg gggagcagag ggagcagcac ctgcccaggc ctgggaggag 240  
 gggcctggag ggcgtgagga ggagcgaggg ggctgcagtg ctggagttag ggatcagggg 300  
 cagggcgcca gatggcctca cacagggaag agagggcccc tctgcaggg cctcacctgg 360  
 gccacaggag gacactgctt ttctctgag gagtgcaggag ctgtggatgg tgctggacag 420  
 aagaaggaca gggcctggct cagggtgtca gaggctgtcg ctggcttccc ttgggatca 480  
 gactgcaggg agggagggcg gcagggtgtg ggggggagtg acgatgagga tgacctgggg 540  
 gtggctccag gccttgcccc tgcctggggc ctacccagc ctccctcaca gtctcctggc 600  
 cctcagtctc tccccccac tccatcctcc atctggcctc agtgggtcat tctgatcact 660  
 gaactgacca taccagccc tgcacaggc cctccatggc tccccaatgc cctggagagg 720  
 ggacatctag tcagagagta gtcctgaaga ggtggcctct gcgatgtgcc tgtgggggca 780  
 gcatcctgca gatggtcccg gccctcatcc tgetgacctg tctgcaggga ctgtcctcct 840  
 ggaccttgcc ccttgtgcag gagctggacc ctgaagtccc ctccccatag gccaagactg 900  
 gagccttggt cctctgttg gactccctgc ccatattctt gtgggagtgg gttctggaga 960  
 catttctgtc tgttcctgag agctgggaat tgctctcagt catctgcctg cgcggttctg 1020  
 agagatggag ttgcctaggc agttattggg gccaatcttt ctactgtgt ctctcctcct 1080  
 ttacccttag ggtgattctg ggggtccact tgtctgtaat ggtgtgtctc aaggtatcac 1140  
 atcatggggc cctgagccat gtgccctgcc tgaagagcct gctgtgtaca ccaaggtggg 1200  
 gcattaccgg aagtggatca aggacacat cgcagccaac ccctgagtgc ccctgtccca 1260  
 ccctacctc tagtaaat t aagtcacat caggttctgg catcacttgg cctttctgga 1320  
 tgctggacac ctgaagcttg gaactcacct ggccgaagct cgagcctcct gagtcctact 1380  
 gacctgtgct ttctgggtg gagtccaggg ctgctaggaa aaggaatggg cagacacagg 1440  
 tgtatgccaa tgtttctgaa atgggtataa ttctgtcctc tccttcgga cactggctgt 1500  
 ctctgaagac ttctcgctca gtttcagtga ggacacacac aaagacgtgg gtgacctgt 1560  
 tgtttgtggg gtgcagagat gggaggggtg gggccacccc tggaagagt gacagtgaca 1620  
 caaggtggac actctctaca gatcactgag gataagctgg agccacaatg catgaggcac 1680  
 acacacagca aggttgacgc tgtaaacata gccacgctg tcctggggggc actgggaagc 1740  
 ctagataagg ccgtgagcag aaagaagggg aggtacctcc tatgtgttg aaggaggagc 1800  
 tagggggaga aactgaaagc tgattaatta caggaggttt gttaggtcc cccaaaccac 1860  
 cgtcagattt gatgatttcc tagcaggact tacagaaata aagagctatc atgctgtggg 1920  
 ttattatggg ttgttacatt gataggatac atactgaaat cagcaaaca aacagatgta 1980  
 tagattagag tgtggagaaa acagaggaaa acttgcagtt acgaagactg gcaacttggc 2040  
 ttactaagt tttcagactg gcaggaagtc aaacctatta ggctgaggac cttgtggagt 2100  
 gtagctgac cagctgatag aggaactagc cagggtgggg cctttccctt tggatggggg 2160

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gcatatccga cagttattct ctccaagtgg agacttacgg acagcatata attctccctg 2220
caaggatgta tgataatatg tacaaagtaa ttccaactga ggaagctcac ctgaccccta 2280
gtgtccaggg tttttactgg gggctctgtg gacgagtatg gactacttga ataattgacc 2340
tgaagtcctc agacctgagg ttccctagag ttcaaacaga tacagcatgg tccagagtcc 2400
cagatgtaca aaaacaggga ttcattcaca atcccatctt tagcatgaag ggtctggcat 2460
ggcccaaggc cccaagtata tcaaggcact tgggcagaac atgccaagga atcaaagtgc 2520
atctcccagg agttattcaa gggtagagcc tttacttggg atgtacaggc tttgagcagt 2580
gcagggtctg tgagtcaacc ttttattgta caggggatga gggaaaggga gaggatgagg 2640
aagccccctt ggggatttgg tttgggtctt tgatcagggt gtctatgggg ctatccctac 2700
aaagaagaat ccagaaatag gggcacattg aggaatgata ctgagcccaa agagcattca 2760
atcattgttt tatttgcctt cttttcacac cattggtgag ggagggatta ccacctggg 2820
gttatgaaga tggttgaaca cccacacat agcaccggag atatgagatc aacagtttct 2880
tagccataga gattcacagc ccagagcagg aggacgctgc acaccatgca ggatgacatg 2940
ggggatgcgc tcgggattgg tgtgaagaag caaggactgt tagaggcagg ctttatagta 3000
acaagacggt ggggcaaact ctgatttccg tgggggaatg tcatgggtctt gctttactaa 3060
gttttgagac tggcaggtag tgaactcat taggctgaga accttgtgga atgcagctga 3120
cccagctgat agaggaagta gccaggtggg agcctttccc agtgggtgtg ggacatatct 3180
ggcaagattt tgtggcactc ctggttacag atactggggc agcaaataaa actgaatctt 3240
gttttcagac cttaaaaaaa aaaaaaaaaa aaaagtttt 3279

```

&lt;210&gt; 383

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 383

```

Met Ala Gly Val Arg Asp Gln Gly Gln Gly Ala Arg Trp Pro His Thr
          5                      10                      15

```

```

Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
          20                      25                      30

```

```

His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
          35                      40                      45

```

```

Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
          50                      55                      60

```

```

Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
          65                      70                      75                      80

```

```

Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala
          85                      90                      95

```

```

Trp Ala Leu Thr Gln Pro Pro Ser Gln Ser Pro Gly Pro Gln Ser Leu
          100                      105                      110

```

```

Pro Ser Thr Pro Ser Ser Ile Trp Pro Gln Trp Val Ile Leu Ile Thr
          115                      120                      125

```

```

Glu Leu Thr Ile Pro Ser Pro Ala His Gly Pro Pro Trp Leu Pro Asn
          130                      135                      140

```

```

Ala Leu Glu Arg Gly His Leu Val Arg Glu
          145                      150

```

<210> 384  
 <211> 557  
 <212> DNA  
 <213> Homo sapiens

<400> 384  
 ggatcctcta gagcgccgc ctactactac taaattcgcg gccgcgtcga cgaagaagag 60  
 aaagatgtgt ttgttttg actctctgtg gtcccttcca atgctgtggg tttccaacca 120  
 ggggaagggg cccttttgca ttgccaagtg ccataacat gagcactact ctaccatggg 180  
 tctgcctcct ggccaagcag gctggtttgc aagaatgaaa tgaatgattc tacagctagg 240  
 acttaacctt gaaatggaaa gtcttgcaat ccattttgca ggatccgtct gtgcacatgc 300  
 ctctgtagag agcagcattc ccagggacct tggaaacagt tggcactgta aggtgcttgc 360  
 tccccaaagac acatcctaaa aggtgttgta atgggtgaaaa cgtcttccctt ctttattgcc 420  
 ccttcttatt tatgtgaaca actgtttgtc tttttttgta tcttttttaa actgtaaaagt 480  
 tcaattgtga aaatgaatat catgcaaata aattatgcga ttttttttcc aaagtaaaaa 540  
 aaaaaaaaaa aaaaaaa 557

<210> 385  
 <211> 337  
 <212> DNA  
 <213> Homo sapiens

<400> 385  
 ttccaggtg atgtgagagg gaagacacat ttactatcct tgatggggct gatcccttta 60  
 gtttctctag cagcagatgg gttaggaggga agtgacccaa gtggttgact cctatgtgca 120  
 tctcaaagcc atctgctgtc ttgagtagc gacacatcat cactcctgca ttgttgatca 180  
 aaacgtggag gtgcttttcc tcagctaaga agcccttagc aaaagctcga atagacttag 240  
 tatcagacag gtccagtttc cgcaccaaca cctgctggtt ccctgtcgtg gtctggatct 300  
 ctttggccac caattcccc tttccacat cccggca 337

<210> 386  
 <211> 300  
 <212> DNA  
 <213> Homo sapiens

<400> 386  
 gggcccgtc cggcccagg ccccgctcg cgagtcctcc tccccgggtg cctgcccgcga 60  
 gccgcgtcgg ccagagggg gggcggggg ctgcctctac cggctggcgg ctgtaactca 120  
 gcgaccttg cccgaaggct ctagcaagga cccaccgacc ccagccgcgg cggcggcggc 180  
 gcggactttg cccggtgtgt gggcgggagc ggactgctgt tccgcggacg ggcagcgaag 240  
 atgttagcct tcgctgccag gaccgtggac cgatcccagg gctgtggtgt aacctcagcc 300

<210> 387  
 <211> 537  
 <212> DNA  
 <213> Homo sapiens

<400> 387  
 gggccgagtc gggcaccaag ggactctttg caggcttctt tcctcggatc atcaaggctg 60  
 cccctcctg tgccatcatg atcagcacct atgagttcgg caaaagcttc ttccagaggc 120  
 tgaaccagga ccggttctg ggcggctgaa aggggcaagg aggcaaggac cccgtctctc 180  
 ccacggatgg ggagagggca ggaggagacc cagccaagtg ccttttctc agcactgagg 240  
 gagggggctt gtttcccttc cctcccggcg acaagctcca gggcagggct gtccctctgg 300

```

gcgggcccagc acttcctcag acacaacttc ttctgtctgc tccagtcgtg gggatcatca 360
cttaccaccacc cccaagttc aagaccaaat cttccagctg ccccttctgt gtttccctgt 420
gtttgctgta gctgggcatg tctccaggaa ccaagaagcc ctcagcctgg tgtagtctcc 480
ctgacccttg ttaattcctt aagtctaaag atgatgaact tcaaaaaaaaa aaaaaaa 537

```

&lt;210&gt; 388

&lt;211&gt; 520

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 388

```

aggataattt ttaaaccaat caaatgaaaa aaacaaacaa acaaaaaagg aaatgtcatg 60
tgaggttaaa ccagtttgca ttcccctaata gtggaaaaag taagaggact actcagcact 120
gtttgaagat tgctcttctt acagcttctg agaattgtgt tatttcaact gccaaagtga 180
ggaccccttc cccaacatgc ccagcccac ccctaagcat ggtcccttgt caccaggcaa 240
ccaggaaact gctacttgtg gacctcacca gagaccagga gggtttggtt agctcacagg 300
acttcccca cccagaaga ttagcatccc atactagact cataactaac tcaactaggc 360
tcataactca ttgatggta ttagacaatt ccatttcttt ctggttatta taaacagaaa 420
atctttcttc ttctcattac cagtaaaggc tcttggtatc tttctggttg aatgatttct 480
atgaacttgt cttattttaa tgggtgggtt ttttctggt 520

```

&lt;210&gt; 389

&lt;211&gt; 365

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 389

```

cgttgcccc gtttgacaga aggaaaggcg gagcttattc aaagtctaga gggagtggag 60
gagttaaggc tggatttcag atctgcctgg ttccagccgc agtgtgccct ctgctcccc 120
aacgactttc caaataatct caccagcgcc ttccagctca ggcgtcctag aagcgtcttg 180
aagcctatgg ccagctgtct ttgtgttccc tctcaccgc ctgtcctcac agctgagact 240
cccaggaaac cttcagacta ccttctctg ccttcagcaa gggcggttg ccacattctc 300
tgagggtcag tggaagaacc tagactccca ttgctagagg tagaaagggg aagggtgctg 360
gggag 365

```

&lt;210&gt; 390

&lt;211&gt; 221

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (221)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 390

```

tgctctcca tctggcccc gacttctctg tcaggaaagt ggggatggac cccatctgca 60
tacacgntt ctcatgggtg tggaacatct ctgcttgccg ttccaggaag gcctctggct 120
gctctangag tctgancga ntcgttgccc cantntgaca naaggaaagg cggagcttat 180
tcaaagtcta gagggagtgg aggagttaag gctggatttc a 221

```

&lt;210&gt; 391

&lt;211&gt; 325

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens



<220>  
 <221> misc\_feature  
 <222> (1)...(325)  
 <223> n = A,T,C or G

<400> 391  
 tggagcaggt cccgaggcct ccctagagcc tggggccgac tctgtgncga tgcangcttt 60  
 ctctcgcgcc cagcctggag ctgctcctgg catctaccaa caatcagncg aggcgagcag 120  
 tagccagggc actgctgcca acagccagtc cnnataccat catgtnaccc ggtgngctct 180  
 naanttngat ntccanagcc ctacccatcn tagttctgct ctcccaccgg ntaccagccc 240  
 cactgcccag gaatcctaca gccagtaccc tgtcccgcag tctctaccta ccagtacgat 300  
 gagacctccg gctactacta tgacc 325

<210> 392  
 <211> 277  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(277)  
 <223> n = A,T,C or G

<400> 392  
 atattgttta actccttctt ttatatcttt taacattttc atggngaaaag gttcacatct 60  
 agtctcactt nggcnagnn ctctacttgg agtctcttcc ccggcctggn ccagtnghaa 120  
 antaccanga accgncatgn cttaanaacn ncctgggttn tgggttnntc aatgactgca 180  
 tgcagtgcac caccctgtcc actacgtgat gctgtaggat taaagtctca cagtgggcgg 240  
 ctgaggatac agcgccgcgt cctgtgttgc tggggaa 277

<210> 393  
 <211> 566  
 <212> DNA  
 <213> Homo sapiens

<400> 393  
 actagtccag tgtggtggaa ttcgcgcccg cgctcgacgga caggtcagct gtctggctca 60  
 gtgatctaca ttctgaagtt gtctgaaaat gtcttcatga ttaaattcag cctaaacggt 120  
 ttgccgggaa cactgcagag acaatgctgt gagtttccaa ccttagccca tctgcgggca 180  
 gagaaggctt agtttgtcca tcagcattat catgatatac ggactgggta cttgggtaag 240  
 gaggggtcta ggagatctgt cccttttaga gacaccttac ttataatgaa gtatttggga 300  
 ggggtgggttt caaaagtaga aatgtcctgt attccgatga tcctcctgta aacattttat 360  
 catttattaa tcatccctgc ctgtgtctat tattatattc atatctctac gctggaaact 420  
 ttctgcctca atgtttactg tgcccttgggt ttgctagtt tgtgttgggt aaaaaaaaaa 480  
 cattctctgc ctgagtttta atttttgtcc aaagttattt taatctatac aattaaaagc 540  
 ttttgccat caaaaaaaaa aaaaaa 566

<210> 394  
 <211> 384  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature

&lt;222&gt; (1)...(384)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 394

```

gaacatacat gtcccggcac ctgagctgca gtctgacatc atcgccatca cgggcctcgc 60
tgcaaattng gaccgggcca aggctggact gctggagcgt gtgaaggagc tacaggccna 120
gcaggaggac cgggctttaa ggagttttaa gctgagtgtc actgtagacc ccaaatacca 180
tccaagatt atcgggagaa agggggcagt aattacccaa atccggttg agcatgacgt 240
gaacatccag tttcctgata aggacgatgg gaaccagccc caggaccaa ttaccatcac 300
agggtacgaa aagaacacag aagctgccag ggatgctata ctgagaattg tgggtgaact 360
tgagcagatg gtttctgagg acgt

```

384

&lt;210&gt; 395

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 395

```

ggcaaaactg tgtgacctca ataagacctc gcagatccaa ggtcaagtat cagaagtgc 60
tctgaccttg gactccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
tatcagaggt ttcattcattg cggaaattgt ggagtctaag gaaatcatgg cctctgaagt 180
attcacgtct ttccagtacc ctgagttctc tatagagttg cctaacacag gcagaattgg 240
ccagctactt gtctgcaatt gtatcttcaa gaataccctg gccatccctt tgactgacgt 300
caagttctct ttggaaagcc tgggcatctc ctctactacag acctctgacc atgggacggt 360
gcagcctggt gagaccatcc aatcccaaat aaaatgcac

```

399

&lt;210&gt; 396

&lt;211&gt; 403

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(403)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 396

```

tggagttntc agtgcaaaca agccataaag cttcagtagc aaattactgt ctcacagaaa 60
gacattttca acttctgctc cagctgctga taaaacaaat catgtgttta gcttgactcc 120
agacaaggac aacctgttcc ttcataactc tctagagaaa aaaaggagtt gttagtagat 180
actaaaaaaaa gtggatgaat aatctggata ttttctctaa aaagattcct tgaaacacat 240
taggaaaatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctgaagcagg 300
gtttagggga gggagtgagg gataaaagaa ggaaaaaaag aagagtgaga aaacctattt 360
atcaaagcag gtgctatcac tcaatgttag gcctgctct ttt

```

403

&lt;210&gt; 397

&lt;211&gt; 100

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(100)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 397

actagtnacag tgtggtggaa ttcgcggccg cgtcgacctt naanccatct ctatagcaaa 60  
tccatccccg ctcttggttg gtnacagaat gactgacaaa 100

&lt;210&gt; 398

&lt;211&gt; 278

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(278)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 398

gcggccgcgt cgacagcagt tccgccagcg ctgcgccctg ggtggggatg tgctgcacgc 60  
ccacctggac atctggaagt cagcggcctg gatgaaagag cggacttcac ctggggcgat 120  
tcactactgt gcctcgacca gtgaggagag ctggaccgac agcgaggtgg actcatcatg 180  
ctccgggcag cccatccacc tgtggcagtt cctcaaggag ttgctactca agccccacag 240  
ctatggccgc ttcattangt ggctcaacaa ggagaagg 278

&lt;210&gt; 399

&lt;211&gt; 298

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(298)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 399

acggaggtgg aggaagcgnc cctgggatcg anaggatggg tcctgncatt gaccnccctn 60  
ggggtgccng catggagcgc atgggcgcgg gcctgggcca cggcatggat cgcggtgggt 120  
ccgagatcga gcgcattggc ctggtcatgg accgcatggg ctccgtggag cgcatgggt 180  
ccggcattga gcgcattggc ccgctgggccc tcgaccacat ggccctccanc attgancgca 240  
tgggccagac catggagcgc attggctctg gcgtggagcn catgggtgcc ggcatggg 298

&lt;210&gt; 400

&lt;211&gt; 548

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 400

acatcaacta ctctctcatt ttaaggatg gcagttccct tcctccctt ttctgcctt 60  
gtacatgtac atgtatgaaa ttctcttctc ttaccgaact ctctccacac atcacaaggt 120  
caaagaacca cagcgttaga agggtaagag ggcaccctat gaaatgaaat ggtgatttct 180  
tgagtctctt tttccacgt ttaaggggccc atggcaggac ttagagttgc gagttaagac 240  
tgcagagggc tagagaatta tttcatacag gctttgaggc caccatgtc acttatcccc 300  
tataccctct caccatcccc ttgtctactc tgatgcccc aagatgcaac tgggcagcta 360  
gttgccccca taattctggg cctttgttgt ttgttttaac tacttgggca tcccaggaag 420  
ctttccagt atctctacc atgggcccc ctctgggat caagccctc ccaggccctg 480  
tccccagccc ctctgcccc agcccccccg cttgccttgg tgctcagccc tcccattggg 540  
agcaggtt 548

<210> 401  
<211> 355  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(355)  
<223> n = A,T,C or G

<400> 401  
actgtttcca tgttatgttt ctacacattg ctacctcagt gctcctggaa acttagcttt 60  
tgatgtctcc aagtagtcca ctttcattta actctttgaa actgtatcat ctttgccaag 120  
taagagtggg ggcctatttc agctgctttg acaaaatgac tggctcctga cttaacgttc 180  
tataaatgaa tgtgctgaag caaagtgtcc atggtggcgg cgaagaagan aaagatgtgt 240  
tttgttttgg actctctgtg gtcccttcca atgctgnngg ttccaacca ggggaagggt 300  
cccttttgca ttgccaagtg ccataaccat gaggcactact ctaccatggn tctgc 355

<210> 402  
<211> 407  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(407)  
<223> n = A,T,C or G

<400> 402  
atggggcaag ctggataaag aaccaagacc cactggagta tgctgtcttc aagaaaccca 60  
tctcacatgc ggtggcatatc ataggctcaa aataaaggaa tggagaaaaa tatttcaagc 120  
aaatggaaaa cagaaaaaag caggtgttgc actcctactt tctgacaaaa cagactatgc 180  
gaataaagat aaaaaagaga aggacattac aaaggtggtc ctgacctttg ataatctca 240  
ttgcttgata ccaacctggg ctgttttaat tgcccaaacc aaaaggataa tttgctgagg 300  
ttgtggagct tctcccttgc agagagtcct tgatctccca aaatttggtt gagatgtaag 360  
gntgattttg ctgacaactc cttttctgaa gttttactca ttccaa 407

<210> 403  
<211> 303  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(303)  
<223> n = A,T,C or G

<400> 403  
cagtatttat agcnaactg aaaagctagt agcaggcaag tctcaaattc aggcacaaaa 60  
tcctaagcaa gagccatggc atggtgaaaa tgcaaaagga gagtctggcc aatctacaaa 120  
tagagaacaa gacctactca gtcatgaaca aaaaggcaga caccaacatg gatctcatgg 180  
gggattggat attgtaatta tagagcagga agatgacagt gatcgtcatt tggcacaaca 240  
tcttaacaac gaccgaaacc cattattttac ataaacctcc attcggtaac catgttgaaa 300  
gga 303

<210> 404  
<211> 225  
<212> DNA  
<213> Homo sapiens

<400> 404  
aagtgttaact ttttaaaaatt tagtggattt tgaaaattct tagaggaaag taaaggaaaa 60  
attgttaatg cactcattta cctttacatg gtgaaagtgc tctcttgatc ctacaaacag 120  
acattttcca ctctgtgttc catagtgtgt aagtgtatca gatgtgttgg gcatgtgaat 180  
ctccaagtgc ctgtgtaata aataaagtat ctttatttca ttcat 225

<210> 405  
<211> 334  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1) ... (334)  
<223> n = A,T,C or G

<400> 405  
gagctgttat actgtgagtt ctactaggaa atcatcaaatt ctgaggggttg tctggaggac 60  
ttcaatacac ctccccccat agtgaatcag ctccaggagg gtccagtcctc tctccttact 120  
tcacccccat cccatgccaa aggaagaccc tccctccttg gctcacagcc ttctctaggc 180  
ttcccagtgct ctccaggaca gagtgggtta tgttttcagc tccatccttg ctgtgagtgt 240  
ctggtgcggt tgtgcctcca gcttctgtc agtgcttcat ggacagtgtc cagcccatgt 300  
cactctccac tctctcanng tggatcccac ccct 334

<210> 406  
<211> 216  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1) ... (216)  
<223> n = A,T,C or G

<400> 406  
tttcatacct aatgagggag ttganatnac atnnaaccag gaaatgcatg gatctcaang 60  
gaaacaaaca cccaataaac tcggagtggc agactgacaa ctgtgagaca tgcacttgct 120  
acnaaacaca aatttnatgt tgcacccttg tttctacacc tgtgggttat gacaaagaca 180  
actgccaaag aatnttcaag aaggaggact gccant 216

<210> 407  
<211> 413  
<212> DNA  
<213> Homo sapiens

<400> 407  
gctgacttgc tagtatcatc tgcattcatt gaagcacaag aacttcatgc cttgactcat 60  
gtaaatgcaa taggattaaa aaataaattt gatatcacat ggaaacagac aaaaaatatt 120  
gtacaacatt gcacccagtg tcagattcta cacctggcca ctcaggaagc aagagttaat 180  
cccagaggtc tatgtcctaa tgtgttatgg caaatggatg tcatgcacgt accttcattt 240

```

ggaaaattgt catttgtcca tgtgacagtt gatacttatt cacatttcat atgggcaacc 300
tgccagacag gagaaagtct tcccatgtta aaagacattt attatcttgt ttctctgtca 360
tgggagttcc agaaaaagtt aaaacagaca atgggccagg ttctgtagta aag          413

```

<210> 408

<211> 183

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(183)

<223> n = A,T,C or G

<400> 408

```

ggagctngcc ctcaattcct ccatntctat gttancatat ttaatgtctt ttgnnattaa 60
tnccttaacta gttaatcctt aaagggctan ntaatcctta actagtcctt ccattgtgag 120
cattatcctt ccagtattcn ccttctnttt tatttactcc ttcttggtta cccatgtact 180
ntt                                     183

```

<210> 409

<211> 250

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(250)

<223> n = A,T,C or G

<400> 409

```

cccacgcacg ataagctctt tatttctgta agtcttgcta ggaaatcatc aaatctgacg 60
gtgggtttggg ggacctgaac aaacctcctg taattaatca gctttcagtt tctcccccta 120
gtccctcctt caacaacata ggaggatcct ccccttcttt ctgctcacgg ccttatctag 180
gcttcccaagt gccccagga cagcgtgggc tatgtttaca gcgntcctt gctggggggg 240
ggcctatgc                                     250

```

<210> 410

<211> 306

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(306)

<223> n = A,T,C or G

<400> 410

```

ggctgggttg caagaatgaa atgaatgatt ctacagctag gacttaacct tgaaatggaa 60
agtcttgcaa tccatttgc aggatccgtc tgtgcacatg cctctgtaga gagcagcatt 120
cccagggacc ttggaaacag ttggcactgt aagggtgctt ccccccaaga cacatcctaa 180
aagggtgttg aatggtgaaa accgcttctt tctttattgc ccttcttat ttatgtgaac 240
nactggttgg ctttttttgn atctttttta aactggaaag ttcaattgng aaaatgaata 300
tcntgc                                     306

```

<210> 411  
<211> 261  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(261)  
<223> n = A,T,C or G

<400> 411  
agagatattn cttaggtnaa agttcataga gttcccatga actatatgac tggccacaca 60  
ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120  
tttaaagtgc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180  
aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240  
cttctctcaa gngaggcaa a 261

<210> 412  
<211> 241  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(241)  
<223> n = A,T,C or G

<400> 412  
gttcaatgtt acctgacatt tctacaacac cccactcacc gatgtattcg ttgcccagtg 60  
ggaacatacc agcctgaatt tggaaaaaat aattgtgttt cttgcccagg aaatactacg 120  
actgactttg atggctccac aaacataacc cagtgtaaaa acagaagatg tggaggggag 180  
ctgggagatt tcaactgggtta cattgaattc ccaaactacc cangcaatta cccagccaac 240  
a 241

<210> 413  
<211> 231  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(231)  
<223> n = A,T,C or G

<400> 413  
aactcttaca atccaagtga ctcactgtg tgcttgaatc cttccactg tctcatctcc 60  
ctcatccaag tttctagtag cttctctttg ttgtgaagga taatcaaact gaacaacaaa 120  
aagtttactc tcttcatttg gaacctaaaa actctcttct tctgggtct gagggctcca 180  
agaatccttg aatcanttct cagatcattg gggacaccan atcaggaacc t 231

<210> 414  
<211> 234  
<212> DNA  
<213> Homo sapiens

<400> 414  
actgtccatg aagcactgag cagaagctgg aggcacaacg caccagacac tcacagcaag 60  
gatggagctg aaaacataac ccactctgtc ctggaggcac tgggaagcct agagaaggct 120  
gtgagccaag gagggagggt cttccttttg catgggatgg ggatgaagta aggagagggg 180  
ctggaccccc tggaagctga ttcactatgg ggggaggtgt attgaagtcc tcca 234

<210> 415  
<211> 217  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(217)  
<223> n = A,T,C or G

<400> 415  
gcataggatt aagactgagt atcttttcta cattctttta actttctaag gggcacttct 60  
caaaacacag accaggtagc aaatctccac tgctctaagg ntctcaccac cactttctca 120  
cacctagcaa tagtagaatt cagtcctact tctgaggcca gaagaatggt tcagaaaaat 180  
antggattat aaaaaataac aattaagaaa aataatc 217

<210> 416  
<211> 213  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(213)  
<223> n = A,T,C or G

<400> 416  
atgcataatnt aaagganact gcctcgcttt tagaagacat ctggnctgct ctctgcatga 60  
ggcacagcag taaagctctt tgattcccag aatcaagaac tctccccttc agactattac 120  
cgaatgcaag gtggttaatt gaaggccact aattgatgct caaatagaag gatattgact 180  
atattggaac agatggagtc tctactacaa aag 213

<210> 417  
<211> 303  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(303)  
<223> n = A,T,C or G

<400> 417  
nagtcttcag gcccatcagg gaagttcaca ctggagagaa gtcatacata tgtactgtat 60  
gtgggaaagg ctttactctg agttcaaate ttcaagccca tcagagagtc cacactggag 120  
agaagccata caaatgcaat gagtgtggga agagcttcag gagggattcc cattatcaag 180  
ttcatctagt ggtccacaca ggagagaaac cctataaatg tgagatatgt gggaagggct 240  
tcantcaaag ttcgtatctt caaatccatc ngaaggncca cagtatanan aaacctttta 300  
agt 303



<210> 418  
<211> 328  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(328)  
<223> n = A,T,C or G

<400> 418  
tttttggcgg tgggtggggca gggacggggac angagtctca ctctgttgcc caggctggag 60  
tgcacaggca tgatctcggc tcactacaac ccctgcctcc catgtccaag cgattcttgt 120  
gcctcagcct tccctgtagc tagaattaca ggcacatgcc accacaccca gctagttttt 180  
gtatttttag tagagacagg gtttcacccat gttggccagg ctggtctcaa actcctnacc 240  
tcagnggtca ggctggtctc aaactcctga cctcaagtga tctgcccacc tcagcctccc 300  
aaagtgtctan gattacaggc cgtgagcc 328

<210> 419  
<211> 389  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(389)  
<223> n = A,T,C or G

<400> 419  
cctcctcaag acggcctgtg gtccgcctcc cggcaaccaa gaagcctgca gtgccatag 60  
acccctgagc catggactgg agcctgaaag gcagcgtaca ccctgtcct gatcttgctg 120  
cttgtttcct ctctgtggct ccattcatag cacagttgtt gcactgaggc ttgtgcaggc 180  
cgagcaaggc caagctggct caaagagcaa ccagtcaact ctgccacggg gtgccaggca 240  
ccggttctcc agccaccaac ctcaactcgt cccgcaaagt gcacatcagt tcttctaccc 300  
taaaggtagg accaaagggc atctgctttt ctgaagtcct ctgctctatc agccatcacg 360  
tggcagccac tcnggctgtg tcgacgcgg 389

<210> 420  
<211> 408  
<212> DNA  
<213> Homo sapiens

<400> 420  
gttcctccta actcctgcca gaaacagctc tcctcaacat gagagctgca cccctcctcc 60  
tggccagggc agcaagcctt agccttggtt tcttgtttct gcttttttcc tggctagacc 120  
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180  
gtccccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240  
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300  
gatatagaaa attcttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360  
acgttgaccg gactttgatg aagtgctatg acaaacctgg caagcccg 408

<210> 421  
<211> 352  
<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(352)

<223> n = A,T,C or G

<400> 421

```
gctcaaaaat ctttttactg atnggcatgg ctacacaatc attgactatt acggaggcca 60
gaggagaatg aggcttggcc tgggagccct gtgcctacta naagcacatt agattatcca 120
ttcactgaca gaacagggtct tttttgggtc cttcttctcc accacnatat acttgcagtc 180
ctccttcttg aagattcttt ggcagttgtc tttgtcataa cccacagggtg tagaaacaag 240
gggtgcaacat gaaatttctg tttcgtagca agtgcattgt tcacaagttg gcangtctgc 300
cactccgagt ttattgggtg tttgtttcct ttgagatcca tgcatttctt gg 352
```

<210> 422

<211> 337

<212> DNA

<213> Homo sapiens

<400> 422

```
atgccaccat gctggcaatg cagcgggcgg tcgaaggcct gcatatccag cccaagctgg 60
cgatgatcga cggcaaccgt tgcccgaagt tgccgatgcc agccgaagcg gtgggtcaagg 120
gcgatagcaa ggtgccggcg atcgccggcg cgtcaatcct ggccaagggtc agccgtgatc 180
gtgaaatggc agctgtcgaa ttgatctacc cgggttatgg catcggcggg cataagggct 240
atccgacacc ggtgcacctg gaagccttgc agcggctggg gccgacgccg attcaccgac 300
gcttcttccg ccggtacggc tggcctatga aaattat 337
```

<210> 423

<211> 310

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(310)

<223> n = A,T,C or G

<400> 423

```
gctcaaaaat ctttttactg atatggcatg gctacacaat cattgactat tagaggccag 60
aggagaatga ggcctggcct gggagccctg tgcctactan aagcncatta gattatccat 120
tactgacag aacagggtctt ttttgggtcc ttcttctcca ccacgatata cttgcagtc 180
tccttcttga agattctttg gcagttgtct ttgtcataac ccacagggtg anaaacaagg 240
gtgcaacatg aaatttctgt ttcgtagcaa gtgcatgtct cacagttgtc aagtctgccc 300
tccgagttta 310
```

<210> 424

<211> 370

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(370)

<223> n = A,T,C or G

&lt;400&gt; 424

```
gctcaaaaat ctttttactg atagggcatgg ctacacaatc attgactatt agaggccaga 60
ggagaatgag gcctggcctg ggagccctgt gcctactaga agcacattag attatccatt 120
cactgacaga acaggtcttt tttgggtcct tcttctccac cacgatatac ttgcagtcct 180
ccttcttgaa gattcttttg cagttgtctt tgtcataacc cacaggtgta gaaacatcct 240
ggttgaatct cctggaactc cctcattagg tatgaaatag catgatgcat tgcataaagt 300
cacgaagggtg gcaaagatca caacgctgcc cagganaaca ttcattgtga taagcaggac 360
tccgtcgacg                                     370
```

&lt;210&gt; 425

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(216)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 425

```
aattgctatn ntttattttg ccaactcaaaa taattaccaa aaaaaaaaaa tnttaaataga 60
taacaacnca acatcaagg n anaanaaca ggaatggntg acntngcata aatnggccga 120
anattatcca ttatnttaag ggttgacttc aggntacagc acacagacaa acatgcccag 180
gaggntntca ggaccgctcg atgtntntng agggagg                                     216
```

&lt;210&gt; 426

&lt;211&gt; 596

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 426

```
cttccagtgga ggataaccct gttgccccgg gccgagggttc tccattaggc tctgattgat 60
tggcagtcag tgatggaagg gtgttctgat cattccgact gcccgaaggg tcgctggcca 120
gctctctgtt ttgctgagtt ggcagtagga cctaatttgt taattaagag tagatgggtga 180
gctgtccttg tattttgatt aacctaattg ccttcccagc acgactcgga ttcagctgga 240
gacatcacgg caacttttaa tgaaatgatt tgaaggggcca ttaagaggca cttcccgtaa 300
ttaggcagtt catctgcact gataacttct tggcagctga gctggtcgga gctgtggccc 360
aaacgcacac ttggcttttg gttttgagat acaactctta atcttttagt catgcttgag 420
ggtggatggc cttttcagct ttaacccaat ttgcaactgcc ttggaagtgt agccaggaga 480
atacactcat atactcgtgg gcttagaggc cacagcagat gtcattggtc tactgcctga 540
gtcccgtctgg tcccatccca ggaccttcca tcggcgagta cctgggagcc cgtgct      596
```

&lt;210&gt; 427

&lt;211&gt; 107

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(107)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 427

```
gaagaattca agttagggtt attcaaaggg cttacngaga atcctanacc caggncccag 60
```

cccgggagca gccttanaga gctcctgttt gactgcccgg ctcagn

107

<210> 428

<211> 38

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(38)

<223> n = A,T,C or G

<400> 428

gaacttcna anaangactt tattcactat ttacatt

38

<210> 429

<211> 544

<212> DNA

<213> Homo sapiens

<400> 429

ctttgctgga cgggaataaaa gtggacgcaa gcatgacctc ctgatgaggg cgctgcattt 60  
 attgaagagc ggctgcagcc ctgcggttca gattaaaatc cgagaattgt atagacgcgg 120  
 atatccacga actcttgaag gactttctga tttatccaca atcaaatacat cggttttcag 180  
 tttggatggt ggctcatcac ctgtagaacc tgacttggcc gtggctggaa tccactcgtt 240  
 gccttccact tcagttacac ctactcacc atcctctcct gttggttctg tgctgcttca 300  
 agatactaag cccacatttg agatgcagca gccatctccc ccaattcctc ctgtccatcc 360  
 tgatgtgcag ttaaaaaatc tgccctttta tgatgtcctt gatgttctca tcaagccac 420  
 gagtttagtt caaagcagta ttcagcgatt tcaagagaag ttttttattt ttgctttgac 480  
 acctcaacaa gttagagaga tatgcatatc cagggatttt ttgccagggtg gtaggagaga 540  
 ttat 544

<210> 430

<211> 507

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(507)

<223> n = A,T,C or G

<400> 430

cttatcncaa tggggctccc aaacttggct gtgcagtgga aactccgggg gaattttgaa 60  
 gaacactgac acccatcttc caccgccgaca ctctgattta attgggctgc agtgagaaca 120  
 gagcatcaat ttaaaaagct gcccagaatg ttntcctggg cagcgttggt atctttgccn 180  
 ccttcgtgac tttatgcaat gcatcatgct atttcatacc taatgaggga gttccaggag 240  
 attcaaccag gatgtttcta cncctgtggg ttatgacaaa gacaactgcc aaagaatntt 300  
 caagaaggag gactgcaagt atatcgtggt ggagaagaag gacccaaaaa agacctgttc 360  
 tgtcagtgaa tggataatct aatgtgcttc tagtaggcac agggctccca ggccaggcct 420  
 cattctctc tggcctctaa tagtcaatga ttgtgtagcc atgcctatca gtaaaaagat 480  
 ttttgagcaa aaaaaaaaaa aaaaaaa 507

<210> 431

<211> 392

<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(392)  
<223> n = A,T,C or G

<400> 431  
gaaaattcag aatggataaa aacaaatgaa gtacaaaata tttcagattt acatagcgat 60  
aaacaagaaa gcacttatca ggaggactta caaatggaag tacactctan aaccatcatc 120  
tatcatggct aaatgtgaga ttagcacagc tgtattattt gtacattgca aacacctaga 180  
aagagatggg aaacaaaatc ccaggagttt tgtgtgtgga gtcctgggtt ttccaacaga 240  
catcattcca gcattctgag attagggnga ttggggatca ttctggagtt ggaatgttca 300  
acaaaagtga tggtgttagg taaaatgtac aacttctgga tctatgcaga cattgaaggt 360  
gcaatgagtc tggcttttac tctgctgttt ct 392

<210> 432  
<211> 387  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(387)  
<223> n = A,T,C or G

<400> 432  
ggtatccnta cataatcaaa tatagctgta gtacatgttt tcattggngt agattaccac 60  
aaatgcaagg caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg 120  
ngtagtccaa gctctcggna gtccagccac tngnaaacat gtcctcttta gattaacctc 180  
gtggacnctn ttgttgnatt gtctgaactg tagngccctg tattttgctt ctgtctgnga 240  
attctgttgc ttctggggca tttccttgng atgcagagga ccaccacaca gatgacagca 300  
atctgaattg ntccaatcac agctgcgatt aagacatact gaaatcgta aggaccggga 360  
acaacgtata gaacactgga gtccttt 387

<210> 433  
<211> 281  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(281)  
<223> n = A,T,C or G

<400> 433  
ttcaactagc anagaanact gcttcagggn gtgtaaaatg aaaggcttcc acgcagttat 60  
ctgattaaag aacactaaga gagggacaag gctagaagcc gcaggatgtc tacactatag 120  
caggcnctat ttgggttggc tggaggagct gtggaaaaca tggagagatt ggcgctggag 180  
atcgccgtgg ctattcctcn ttgntattac accagngagg ntctctgtnt gccactggt 240  
tnnaaaaccg ntatacaata atgatagaat aggacacaca t 281

<210> 434  
<211> 484

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 434

```
ttttaaaata agcatttagt gctcagtcct tactgagtag tctttctctc cctctctctg 60
aatttaattc tttcaacttg caatttgcaa ggattacaca tttcactgtg atgtatatg 120
tggtgcaaaa aaaaaaaagt gtctttgttt aaaattactt ggtttgtgaa tccatcttgc 180
tttttcccca ttggaactag tcattaaccc atctctgaac tggtagaaaa acatctgaag 240
agctagtcta tcagcatctg acaggtgaat tggatggttc tcagaacccat ttcacccaga 300
cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca taacaaaccc 360
tgctccaatc tgtcacataa aagtctgtga cttgaagttt agtcagcacc cccaccaaac 420
tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataaag taccatgtc 480
ttta
```

484

&lt;210&gt; 435

&lt;211&gt; 424

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 435

```
gcgcgcgtca gagcaggtca ctttctgcct tccagtcctt ccttcaagga agccccatgt 60
gggtagcttt caatatcgca gggtcttact cctctgcctc tataagctca aaccaccaa 120
cgatcgggca agtaaacccc ctccctcgcc gacttcggaa ctggcgagag ttcagcgcag 180
atgggcctgt ggggaggggg caagatagat gagggggagc ggcatgggtc ggggtgaccc 240
cttgagagaga ggaagaggc cacaagaggg gctgccaccg ccactaacgg agatggccct 300
ggtagagacc tttgggggtc tggaaacctt ggactcccca tgctctaact cccacactct 360
gctatcagaa acttaaactt gaggattttc tctgtttttc actcgcaata aattcagagc 420
aaac
```

424

&lt;210&gt; 436

&lt;211&gt; 667

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(667)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 436

```
accttgggaa nactctcaca atataaaggg tcgtagactt tactccaaat tccaaaaagg 60
tcttggccat gtaatcctga aagttttccc aaggtagcta taaaatcctt ataagggtgc 120
agcctcttct ggaattcctc tgatttcaaa gtctcactct caagttcttg aaaacgaggg 180
cagttcctga aaggcaggtg tagcaactga tcttcagaaa gaggaactgt gtgcaccggg 240
atgggctgcc agagtaggat aggattccag atgctgacac cttctggggg aaacaggggt 300
gccaggtttg tcatagcact catcaaagtc cggtaacgt ctgtgcttcg aatataaacc 360
tgttcatggt tataggactc attcaagaat tttctatate tctttcttat atactctcca 420
agttcataat gctgctccat gccagctggg gtgagttggc caaatccttg tggccatgag 480
gattccttta tggggtcagt gggaaagggt tcaatgggac ttgggtctcc atgccgaaac 540
accaaagtca caaacttcaa ctcttgggt agtacacttc ggtctagcca gaaaaaagg 600
agaaacaaga agccaaggct aaggcttgct gccctgccag gaggaggggt gcagctctca 660
tgttgag
```

667

&lt;210&gt; 437

&lt;211&gt; 693

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 437

```

ctacgtctca accctcattt ttaggtaagg aatcttaagt ccaaagatat taagtgactc 60
acacagccag gtaaggaaag ctggattggc acactaggac tctaccatac cgggttttgt 120
taaagctcag gttaggaggc tgataagctt ggaaggaaact tcagacagct ttttcagatc 180
ataaaagata attcttagcc catgttcttc tccagagcag acctgaaatg acagcacagc 240
aggtactcct ctattttcac cctcttgct tctactctct ggcagtcaga cctgtgggag 300
gccatgggag aaagcagctc tctggatggt tgtacagatc atggactatt ctctgtggac 360
catttctcca gggtacccta ggtgtcacta ttgggggggac agccagcadc tttagctttc 420
atttgagttt ctgtctgtct tcagtagagg aaacttttgc tcttcacact tcacatctga 480
acacctaact gctgttgctc ctgaggtggt gaaagacaga tatagagctt acagtattta 540
tcctatttct aggcactgag ggctgtgggg taccttgtgg tgccaaaaca gactctgttt 600
taaggacatg ttgcttcaga gatgtctgta actatctggg ggctctgttg gctctttacc 660
ctgcatcatg tgctctcttg gctgaaaatg acc

```

693

&lt;210&gt; 438

&lt;211&gt; 360

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 438

```

ctgcttatca caatgaatgt tctcctgggc agcgttgtga tctttgccac ctctgtgact 60
ttatgcaatg catcatgcta tttcatacct aatgaggagg ttccaggaga ttcaaccagg 120
atgtttctac acctgtgggt tatgacaaag acaactgcca aagaatcttc aagaaggagg 180
actgcaagta tatctggtgg agaagaagga cccaaaaaag acctgttctg tcagtgaatg 240
gataatctaa tgtgcttcta gtaggcacag ggctcccagg ccaggcctca ttctcctctg 300
gcctctaata gtcaataatt gtgtagccat gcctatcagt aaaaagattt ttgagcaaac 360

```

&lt;210&gt; 439

&lt;211&gt; 431

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(431)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 439

```

gttcctnnta actcctgcca gaaacagctc tcctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttgggt tcttgtttct gcttttttcc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180
gtcccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attcttgaat gagtctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcggccgcg 420
aatttagtag t

```

431

&lt;210&gt; 440

&lt;211&gt; 523

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 440

agagataaag cttagggtcaa agttcataga gttcccatga actatatgac tggccacaca 60  
ggatcttttg tattaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120  
tttaaatgtc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180  
aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240  
cttctctcaa ggagaggcaa agaaaggaga tacagtggag acatctggaa agttttctcc 300  
actggaaaaac tgctactatc tgtttttata tttctgttaa aatatatgag gctacagaac 360  
taaaaattaa aacctctttg tgcccttgg tcttggaaca tttatgttcc ttttaaagaa 420  
acaaaaatca aactttacag aaagatttga tgtatgtaac acatatagca gctcttgaag 480  
tatatatatc atagcaaata agtcatctga tgagaacaag cta 523

&lt;210&gt; 441

&lt;211&gt; 430

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 441

gttctctcta actcctgccaa gaaacagctc tctcaacat gagagctgca cccctctctc 60  
tggccagggc agcaagcctt agccttggtt tcttgtttct gcttttttcc tggctagacc 120  
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180  
gtcccattga cacttttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240  
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300  
gatatagaaa attcttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360  
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgctga cgcggccgcg 420  
aatttagtag 430

&lt;210&gt; 442

&lt;211&gt; 362

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 442

ctaaggaatt agtagtggtc ccatacattg tttggagtgt gctattctaa aagattttga 60  
tttcttgga tgacaattat attttaactt tgggtggggga aagagttata ggaccacagt 120  
cttcaattct gatacttgta aattaatctt ttattgcact tgttttgacc attaagctat 180  
atgtttagaa atggtcattt tacggaaaaa ttagaaaaat tctgataata gtgcagaata 240  
aatgaattaa tgttttactt aatttatatt gaactgtcaa tgacaaataa aaattctttt 300  
tgattatatt ttgttttcat ttaccagaat aaaaactaag aattaaaagt ttgattacag 360  
tc 362

&lt;210&gt; 443

&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(624)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 443

tttttttttt gcaacacaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag 60  
ttgaaagaat taaattcaga ggagggggaga gaaagagtac tcagtaggga ctgagcacta 120  
aatgcttatt ttaaaagaaa tgtaaagagc agaaagcaat tcaggctacc ctgccttttg 180  
tgctggctag tactccggtc ggtgtcagca gcacgtggca ttgaacattg caatgtggag 240



```

cccaaaccac agaaaatggg gtgaaattgg ccaactttct attaacttgg cttcctgttt 300
tataaaatat tgtgaataat atcacctact tcaaagggca gttatgaggc ttaaataaac 360
taacgcctac aaaacactta aacatagata acataggtgc aagtactatg tatctggtac 420
atggtaaaca tccttattat taaagtcaac gctaaaatga atgtgtgtgc atatgctaata 480
agtacagaga gagggcactt aaaccaacta agggcctgga ggggaagggtt cctggaaaga 540
ngatgcttgt gctgggtcca aatcttggtc tactatgacc ttggccaaat tatttaaact 600
ttgtccctat ctgctaaaca gatc
624

```

&lt;210&gt; 444

&lt;211&gt; 425

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(425)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 444

```

gcacatcatt nntcttgcatt tctttgagaa taagaagatc agtaaatagt tcagaagtgg 60
gaagctttgt ccaggcctgt gtgtgaaccc aatgttttgc ttagaaatag aacaagtaag 120
ttcattgcta tagcataaca caaaatttgc ataagtggtg gtcagcaaat ctttgaatgc 180
tgcttaatgt gagaggttgg taaaatcctt tgtgcaacac tctaactccc tgaatgtttt 240
gctgtgctgg gacctgtgca tgccagacaa ggccaagctg gctgaaagag caaccagcca 300
cctctgcaat ctgccacctc ctgctggcag gatttgtttt tgcactcctg gaagagccaa 360
ggaggcacca gggcataagt gagtagactt atggctcgacg cggccgcgaa tttagtagta 420
gtaga
425

```

&lt;210&gt; 445

&lt;211&gt; 414

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(414)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 445

```

catgtttatg nttttggatt actttgggca cctagtgttt ctaaatcgtc tatcattctt 60
ttctgttttt caaaagcaga gatggccaga gtctcaacaa actgtatctt caagtctttg 120
tgaaattctt tgcattgtgc agattattgg atgtagtttc ctttaactag catataaatc 180
tggtgtgttt cagataaatg aacagcaaaa tgtggtggaa ttaccatttg gaacattgtg 240
aatgaaaaat tgtgtctcta gattatgtaa caaataacta tttcctaacc attgatcttt 300
ggatttttat aatcctactc acaaatagact aggttctctc tcttgtattt tgaagcagtg 360
tgggtgctgg attgataaaa aaaaaaaaaaag tcgacgcggc cgcaattta gtag 414

```

&lt;210&gt; 446

&lt;211&gt; 631

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(631)

<223> n = A,T,C or G

<400> 446

```
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tctgcatgca tgggaagtgt gagcattcta tcaatatgca ggagccatct tgcagggtgtg 120
atgctgggta tactggacaa cactgtgaaa aaaaggacta cagtgttcta tacgttggtc 180
ccggtcctgt acgatttcag tatgtcttaa tcgcagctgt gattggaaca attcagattg 240
ctgtcatctg tgtggtgggc ctctgcatca caagggccaa actttaggta atagcattgg 300
actgagattt gtaaaccttc caaccttcca ggaaatgccc cagaagcaac agaattcaca 360
gacagaagca aaatacaggg cactacagtt cagacaatac aacaagagcg tccacgaggt 420
taatctaaag ggagcatggt tcacagtggc tggactaccg agagcttgga ctacacaata 480
cagtattata gacaaaagaa taagacaaga gatctacaca tgttgcttg catttggtgtg 540
aatctacacc aatgaaaaca tgtactacag ctatatttga ttatgtatgg atatatttga 600
aatagtatac attgtcttga tgtttttct g                                     631
```

<210> 447

<211> 585

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(585)

<223> n = A,T,C or G

<400> 447

```
ccttgggaaa antntcacia tataaagggt cgtagacttt actccaaatt ccaaaaaggt 60
cctggccatg taatcctgaa agttttccca aggtagctat aaaatcctta taagggtgca 120
gcctcttctg gaattcctct gatttcaaag tctcactctc aagttcttga aaacgagggc 180
agttcctgaa aggcaggtat agcaactgat cttcagaaag aggaactgtg tgcaccggga 240
tgggctgcca gagtaggata ggattccaga tgctgacacc ttctggggga aacagggtcg 300
ccaggtttgt catagcactc atcaaagtcg ggtcaacgtc tgtgcttga atataaacct 360
gttcatgttt ataggactca ttcaagaatt ttctatatct ctttcttata tactctccaa 420
gttcataatg ctgctccatg cccagctggg tgagttggcc aaatccttgt ggccatgagg 480
attcctttat ggggtcagtg ggaaagggtg caatgggact tcggtctcca tgccgaaaca 540
ccaaagtcac aaacttcaac tccttggtga gtacacttcg gtcta                                     585
```

<210> 448

<211> 93

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(93)

<223> n = A,T,C or G

<400> 448

```
tgctcgtggg tcattctgan ncccgaactg acctgccag ccctgccgan gggccnccat 60
ggctccctag tgccctggag agganggggc tag                                     93
```

<210> 449

<211> 706

<212> DNA

<213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(706)  
 <223> n = A,T,C or G

<400> 449  
 ccaagttcat gctntgtgct ggacgctgga caggggggcaa aagcnnnttgc tcgtgggtca 60  
 ttctgancac cgaactgacc atgccagccc tgccgatggc cctccatggc tccctagtgc 120  
 cctggagagg aggtgtctag tcagagagta gtccctggaag gtggcctctg ngaggagcca 180  
 cggggacagc atcctgcaga tggtcgggag cgccccattc gccattcagg ctgcgcaact 240  
 gttgggaagg gcgatacgtg cgggcctctt cgctattacg ccagctggcg aaagggggat 300  
 gtgctgcaag gcgattaagt tgggtaacgc cagggttttc ccagtcncga cgttgtaaaa 360  
 cgacggccag tgaattgaat ttaggtgacn ctatagaaga gctatgacgt cgcagtcacg 420  
 cgtacgtaag cttggatcct cttagcggc cgcctactac tactaaattc gcggcgcgct 480  
 cgacgtggga tccnactga gagagtggag agtgacatgt gctggacnct gtccatgaag 540  
 cactgagcag aagctggagg cacaacgcnc cagacactca cagctactca ggaggctgag 600  
 aacaggttga acctgggagg tggaggttgc aatgagctga gatcaggccn ctgcncccca 660  
 gcatggatga cagagtgaaa ctccatctta aaaaaaaaaa aaaaaa 706

<210> 450  
 <211> 493  
 <212> DNA  
 <213> Homo sapiens

<400> 450  
 gagacggagt gtcactctgt tgcccaggct ggagtgcagc aagacactgt ctaagaaaaa 60  
 acagttttta aaggtaaaac aacataaaaa gaaatatcct atagtggaaa taagagagtc 120  
 aaatgaggct gagaacttta caaagggatc ttacagacat gtcgccaata tcaactgcatg 180  
 agcctaagta taagaacaac ctttggggag aaaccatcat ttgacagtga ggtacaattc 240  
 caagtcaggc agtgaaatgg gtggaattaa actcaaatta atcctgccag ctgaaacgca 300  
 agagacactg tcagagagtt aaaaagttag ttctatccat gaggtgattc cacagtcctc 360  
 tcaagtcaac acatctgtga actcacagac caagttctta aaccactgtt caaactctgc 420  
 tacacatcag aatcacctgg agagctttac aaactcccat tgccgagggc cgacgcggcc 480  
 gcgaatttag tag 493

<210> 451  
 <211> 501  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(501)  
 <223> n = A,T,C or G

<400> 451  
 gggcgcgctc cattcgccat tcaggctgag caactgttgg gaagggcgat cgggtgcgggc 60  
 ctcttcgcta ttacgccagc tggcgaaagg gggatgtgct gcaaggcgat taagttgggt 120  
 aacgccaggg ttttcccagt cncgacgttg taaaacgacg gccagtgaat tgaatttagg 180  
 tgacnctata gaagagctat gacgtcgcat gcacgcgtac gtaagcttgg atcctctaga 240  
 gcggccgcct actactacta aattcgcggc cgcgtcgacg tgggatccnc actgagagag 300  
 tggagagtga catgtgctgg acnctgtcca tgaagcactg agcagaagct ggaggcacia 360  
 cgcncacagc actcacagct actcaggagg ctgagaacag gttgaacctg ggagggtggag 420  
 gttgcaatga gctgagatca ggccnctgcn cccagcatg gatgacagag tgaaactcca 480

tctttaaaaaa aaaaaaaaaa a

501

<210> 452

<211> 51

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(51)

<223> n = A,T,C or G

<400> 452

agacggtttc accnttataa cnccttttag gatgggnntt ggggagcaag c

51

<210> 453

<211> 317

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(317)

<223> n = A,T,C or G

<400> 453

tacatcttgc tttttcccca ttggaactag tcattaaccc atctctgaac tggtagaaaa 60  
acatctgaag agctagtcta tcagcatctg gcaagtgaat tggatgggtc tcagaaccat 120  
ttcacccana cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca 180  
taacaaaccc tgctccaatc tgtcacataa aagtctgtga cttgaagttt antcagcacc 240  
cccaccaaac tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataagg 300  
taccatgtc tttatta 317

<210> 454

<211> 231

<212> DNA

<213> Homo sapiens

<400> 454

ttcgaggtac aatcaactct cagagtgtag ttctcttcta tagatgagtc agcattaata 60  
taagccacgc cagctcttg aaggagtctt gaattctcct ctgctcactc agtagaacca 120  
agaagaccaa attcttctgc atccagctt gcaaacaaaa ttgttcttct aggtctccac 180  
ccttcctttt tcagtgttcc aaagctctc acaatttcat gaacaacagc t 231

<210> 455

<211> 231

<212> DNA

<213> Homo sapiens

<400> 455

taccaaagag ggcataataa tcagtctcac agtaggggtc accatcctcc aagtgaaaaa 60  
cattgttccg aatgggcttt ccacaggcta cacacacaaa acaggaaaca tgccaagttt 120  
gtttcaacgc attgatgact tctccaagga tcttcttttg gcatcgacca cattcagggg 180  
caaagaattt ctcatagcac agtcacaat acagggtctc tttctcctct a 231

<210> 456  
<211> 231  
<212> DNA  
<213> Homo sapiens

<400> 456  
ttggcaggta cccttacaaa gaagacacca taccttatgc gttattaggt ggaataatca 60  
ttccattcag tattatcggt attattcttg gagaaacct gtctgtttac tgtaaccttt 120  
tgcactcaaa ttcttttatt aggaataact acatagccac tatttacaaa gccattggaa 180  
cttttttatt tgggtgcagct gctagtcagt ccctgactga cattgccaag t 231

<210> 457  
<211> 231  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(231)  
<223> n = A,T,C or G

<400> 457  
cgaggtagccc aggggtctga aaatctctnn ttantagtc gatagcaaaa ttgttcatca 60  
gcattcctta atatgatctt gctataatta gatttttctc cattagagtt catagagttt 120  
tatttgattt tattagcaat ctctttcaga agacccttga gatcattaag ctttgtatcc 180  
agttgtctaa atcgatgcct catttcctct gaggtgtcgc tggcttttgc g 231

<210> 458  
<211> 231  
<212> DNA  
<213> Homo sapiens

<400> 458  
aggtctggtt cccccactt ccactccctt ctactctctc taggactggg ctgggccaag 60  
agaagagggg tggtaggga agccgttgag acctgaagcc ccaccctcta ctttccttca 120  
acaccctaac cttgggtaac agcatttgga attatcattt gggatgagta gaatttccaa 180  
ggtcctgggt taggcatttt ggggggcccag accccaggag aagaagattc t 231

<210> 459  
<211> 231  
<212> DNA  
<213> Homo sapiens

<400> 459  
ggtaccgagg ctgctgaca cagagaaacc ccaacgcgag gaaaggaatg gccagccaca 60  
ccttcgcgaa acctgtggtg gccaccagt cctaacggga caggacagag agacagagca 120  
gccctgcact gttttccctc caccacagcc atcctgtccc tcattggctc tgtgctttcc 180  
actatacaca gtcaccgtcc caatgagaaa caagaaggag caccctccac a 231

<210> 460  
<211> 231  
<212> DNA  
<213> Homo sapiens

<400> 460

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gcaggtataa catgctgcaa caacagatgt gactaggaac ggccggtgac atggggaggg 60
cctatcaccc tattcttggg ggctgcttct tcacagtgat catgaagcct agcagcaa at 120
cccacctccc cacacgcaca cggccagcct ggagcccaca gaagggtcct cctgcagcca 180
gtggagcttg gtccagcctc cagtccaccc ctaccagggt taaggataga a 231
```

&lt;210&gt; 461

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 461

```
cgaggtttga gaagctctaa tgtgcagggg agccgagaag caggcggcct agggaggggtc 60
gcgtgtgctc cagaagagtg tgtgcatgcc agaggggaaa caggcgcctg tgtgtcctgg 120
gtggggttca gtgaggagtg ggaaattggt tcagcagaac caagccgttg ggtgaataag 180
agggggattc catggcactg atagagccct atagtctcag agctgggaat t 231
```

&lt;210&gt; 462

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 462

```
aggtaccctc attgtagcca tgggaaaatt gatgttcagt ggggatcagt gaattaaatg 60
gggtcatgca agtataaaaa ttaaaaaaaa aagacttcat gcccaatctc atatgatgtg 120
gaagaactgt tagagagacc aacagggtag tgggttagag atttccagag tcttacattt 180
tctagaggag gtatttaatt tcttctcact catccagtgt tgtatttagg a 231
```

&lt;210&gt; 463

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 463

```
tactccagcc tgggtgacaga gcgagaccct atcaccgccc cccacccccc caaaaaaaaa 60
actgagtaga caggtgtcct cttggcatgg taagtcttaa gtccccctcc agatctgtga 120
catttgacag gtgtcttttc ctctggacct cgggtgtcccc atctgagtga gaaaaggcag 180
tggggagggt gatcttccag tcgaagcggt atagaagccc gtgtgaaaag c 231
```

&lt;210&gt; 464

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 464

```
gtactctaag attttatcta agttgccttt tctgggtggg aaagtttaac cttagtgact 60
aaggacatca catatgaaga atgtttaagt tggagggtggc aacgtgaatt gcaaacaggg 120
cctgcttcag tgactgtgtg cctgtagtcc cagctactcg ggagtctgtg tgaggccagg 180
ggtgccagcg caccagctag atgctctgta acttctaggc cccattttcc c 231
```

&lt;210&gt; 465

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 465

catgttggtg tagctgtggt aatgctggct gcatctcaga caggggtaac ttcagctcct 60  
 gtggcaaat agcaacaaat tctgacatca tatttatggg ttctgtatct ttgttgatga 120  
 aggatggcac aatttttgct tgtgttcata atatactcag attagttcag ctccatcaga 180  
 taaactggag acatgcagga cattagggta gtgttgtagc tctggtaatg a 231

<210> 466

<211> 231

<212> DNA

<213> Homo sapiens

<400> 466

caggtacctc tttccattgg atactgtgct agcaagcatg ctctccgggg tttttttaat 60  
 ggccttcgaa cagaacttgc cacataccca ggtataatag tttctaacaat ttgccagga 120  
 cctgtgcaat caaatattgt ggagaattcc cttagctggag aagtcacaaa gactataggc 180  
 aataatggag accagtccca caagatgaca accagtcggt gtgtgaggct g 231

<210> 467

<211> 311

<212> DNA

<213> Homo sapiens

<400> 467

gtacaccctg gcacagtcca atctgaactg gttcggcact catctttcat gagatggatg 60  
 tgggggcttt tctccttttt catcaagact cctcagcagg gagccagac cagcctgcac 120  
 tgtgccttaa cagaaggctc tgagattcta agtgggaatc atttcagtga ctgtcatgtg 180  
 gcatgggtct ctgcccaagc tcgtaatgag actatagcaa ggcggctgtg ggacgtcagt 240  
 tgtgacctgc tgggcctccc aatagactaa caggcagtg cagttggacc caagagaaga 300  
 ctgcagcaga c 311

<210> 468

<211> 3112

<212> DNA

<213> Homo sapiens

<400> 468

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 aagatctgca tgggtgggaag gacctgatga tacagagttt gataggagac aattaaaggc 120  
 tgggaaggcac tggatgcctg atgatgaagt ggactttcaa actggggcac tactgaaacg 180  
 atgggatggc cagagacaca ggagatgagt tggagcaagc tcaataacaa agtgggttcaa 240  
 cgaggacttg gaattgcatg gagctggagc tgaagtttag cccaattgtt tactagttaga 300  
 gtgaatgtgg atgattggat gatcatttct catctctgag cctcagggtc cccatccata 360  
 aaatgggata cacagtatga tctataaagt gggatatagt atgatctact tctactgggtt 420  
 atttgaagga tgaattgaga taatttattt caggtgccta gaacaatgcc cagattagta 480  
 catttggttg aactgagaaa tggcataaca ccaaatttaa tatatgtcag atgttactat 540  
 gattatcatt caatctcata gttttgtcat ggcccaattt atcctcactt gtgcctcaac 600  
 aaattgaact gttaacaaag gaatctctgg tctgtggtaa tggctgagca ccactgagca 660  
 tttccattcc agttggcttc ttgggtttgc tagctgcac actagtcac ttaaataaat 720  
 gaagttttaa catttctcca gtgatttttt tatctcacct ttgaagatac tatgttatgt 780  
 gattaaataa agaacttgag aagaacaggt ttcattaaac ataaaatcaa tgtagacgca 840  
 aattttctgg atgggcaata cttatgttca caggaaatgc tttaaaatat gcagaagata 900  
 attaaatggc aatggacaaa gtgaaaaact tagacttttt tttttttttt ggaagtatct 960  
 ggatgttcct tagtcactta aaggagaact gaaaaatagc agtgagttcc acataatcca 1020  
 acctgtgaga ttaaggctct ttgtggggaa ggacaaagat ctgtaaattt acagtttcct 1080  
 tccaaagcca acgtcgaatt ttgaaacata tcaaagctct tcttcaagac aaataatcta 1140  
 tagtacatct ttcttatggg atgcacttat gaaaaatggg ggctgtcaac atctagtcac 1200

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tttagctctc aaaatggttc attttaagag aaagtttttag aatctcatat ttattcctgt 1260
ggaaggacag cattgtggct tggactttat aaggtcttta ttcaactaaa taggtgagaa 1320
ataagaaagg ctgctgactt taccatctga ggccacacat ctgctgaaat ggagataatt 1380
aacatcacta gaaacagcaa gatgacaata taatgtctaa gtagtgacat gtttttgcac 1440
atttccagcc ccttttaaata tccacacaca caggaagcac aaaaggaagc acagagatcc 1500
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aaagtgagca ttaccaatga gaggaaaaca gacgagaaaa tcttgatggc ttcacaagac 1740
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accacggggc agagggtcag gattctggcc ctgctgccta aactgtgcgt tcataaccaa 1860
atcatttcac atttctaacc ctcaaaacaa agctgttgta atatctgac tctacggttc 1920
cttctgggcc caacattctc catatatcca gccacactca tttttaatat ttagtcccca 1980
gatctgtact gtgacctttc tacactgtag aataacatta ctcatttgt tcaaagacct 2040
ttcgtgttgc tgccaatat gtagctgact gtttttccca aggagtgttc tggcccaggg 2100
gatctgtgaa caggctggga agcatctcaa gatctttcca ggggtatact tactagcaca 2160
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&lt;210&gt; 469

&lt;211&gt; 2229

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 469

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&lt;210&gt; 470

&lt;211&gt; 2426

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 470

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&lt;210&gt; 471

&lt;211&gt; 812

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 471

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812

&lt;210&gt; 472

&lt;211&gt; 515

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

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&lt;400&gt; 472

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the end of the sequence

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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>7</sup> :</b> <b>C12N 15/12, C07K 14/47, C12Q 1/68, A61K 39/395, G01N 33/68, 33/574, C07K 16/30, C12N 15/62, 5/02 // A61P 35/00</b>		<b>A3</b>	<b>(11) International Publication Number:</b> <b>WO 00/04149</b>																					
<b>(21) International Application Number:</b> PCT/US99/15838		<b>(43) International Publication Date:</b> 27 January 2000 (27.01.00)																						
<b>(22) International Filing Date:</b> 14 July 1999 (14.07.99)		<b>(74) Agents:</b> MAKI, David, J. et al.; Seed and Berry LLP, 6300 Columbia, 701 Fifth Avenue, Seattle, WA 98104-7092 (US).																						
<b>(30) Priority Data:</b> <table border="0"><tr><td>09/115,453</td><td>14 July 1998 (14.07.98)</td><td>US</td></tr><tr><td>09/116,134</td><td>14 July 1998 (14.07.98)</td><td>US</td></tr><tr><td>09/159,822</td><td>23 September 1998 (23.09.98)</td><td>US</td></tr><tr><td>09/159,812</td><td>23 September 1998 (23.09.98)</td><td>US</td></tr><tr><td>09/232,880</td><td>15 January 1999 (15.01.99)</td><td>US</td></tr><tr><td>09/232,149</td><td>15 January 1999 (15.01.99)</td><td>US</td></tr><tr><td>09/288,946</td><td>9 April 1999 (09.04.99)</td><td>US</td></tr></table>		09/115,453	14 July 1998 (14.07.98)	US	09/116,134	14 July 1998 (14.07.98)	US	09/159,822	23 September 1998 (23.09.98)	US	09/159,812	23 September 1998 (23.09.98)	US	09/232,880	15 January 1999 (15.01.99)	US	09/232,149	15 January 1999 (15.01.99)	US	09/288,946	9 April 1999 (09.04.99)	US	<b>(81) Designated States:</b> AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).	
09/115,453	14 July 1998 (14.07.98)	US																						
09/116,134	14 July 1998 (14.07.98)	US																						
09/159,822	23 September 1998 (23.09.98)	US																						
09/159,812	23 September 1998 (23.09.98)	US																						
09/232,880	15 January 1999 (15.01.99)	US																						
09/232,149	15 January 1999 (15.01.99)	US																						
09/288,946	9 April 1999 (09.04.99)	US																						
<b>(71) Applicant:</b> CORIXA CORPORATION [US/US]; Suite 200, 1124 Columbia Street, Seattle, WA 98104 (US).		<b>Published</b> <i>With international search report.</i>																						
<b>(72) Inventors:</b> DILLON, Davin, Clifford; 21607 N.E. 24th Street, Redmond, WA 98053 (US). HARLOCKER, Susan, Louise; 6203 20th Avenue N.W., Seattle, WA 98107 (US). YUQIU, Jiang; 5001 South 232nd Street, Kent, WA 98032 (US). XU, Jiangchun; 15805 S.E. 43rd Place, Bellevue, WA 98006 (US). MITCHAM, Jennifer, Lynn; 16677 Northeast 88th Street, Redmond, WA 98052 (US).		<b>(88) Date of publication of the international search report:</b> 20 July 2000 (20.07.00)																						
<b>(54) Title:</b> COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER																								
<b>(57) Abstract</b> <p>Compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer, are disclosed. Compositions may comprise one or more prostate tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a prostate tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as prostate cancer. Diagnostic methods based on detecting a prostate tumor protein, or mRNA encoding such a protein, in a sample are also provided.</p>																								

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EE	Estonia	LR	Liberia	SG	Singapore		

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/JS 99/15838

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C07K14/47 C12Q1/68 A61K39/395 G01N33/68  
 G01N33/574 C07K16/30 C12N15/62 C12N5/02  
 //A61P35/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97 33909 A (CORIXA CORP) 18 September 1997 (1997-09-18)  the whole document	1-22, 29-31, 35-49, 53-79
A	SJOGREN H O: "Therapeutic immunization against cancer antigens using genetically engineered cells" IMMUNOTECHNOLOGY, vol. 3, no. 3, 1 October 1997 (1997-10-01), pages 161-172, XP004097000 ISSN: 1380-2933 the whole document	23-28, 32-34, 53-57

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

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- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

31 January 2000

Date of mailing of the international search report

04.05.00

Name and mailing address of the ISA

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Authorized officer

ANDRES S.M.

## INTERNATIONAL SEARCH REPORT

International Application No

PC1, JS 99/15838

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>CHU R S ET AL: "CPG OLIGODEOXYNUCLEOTIDES ACT AS ADJUVANTS THAT SWITCH ON T HELPER 1 (TH1) IMMUNITY"</p> <p>JOURNAL OF EXPERIMENTAL MEDICINE, vol. 186, no. 10, 1 November 1997 (1997-11-01), pages 1623-1631, XP002910130 ISSN: 0022-1007 the whole document</p> <p>---</p>	<p>14-20, 25-27, 41-47</p>
A	<p>EP 0 317 141 A (BECTON DICKINSON CO) 24 May 1989 (1989-05-24) the whole document</p> <p>---</p>	<p>50-52</p>
A	<p>ZITVOGEL L ET AL: "Eradication of established murine tumors using a novel cell-free vaccine: dendritic cell-derived exosomes"</p> <p>NATURE MEDICINE, vol. 4, no. 5, 1 May 1998 (1998-05-01), pages 594-600, XP002085387 ISSN: 1078-8956 cited in the application</p> <p>---</p>	
P,X	<p>WO 98 37093 A (CORIXA CORP) 27 August 1998 (1998-08-27)</p> <p>page 3, line 20 -page 22, line 2 page 35, line 9 - last line page 76, line 34 -page 78, line 22 claims</p> <p>---</p>	<p>1-15, 17-19, 21,22, 29-31, 34,35, 39-42, 44-46, 48,49, 58-79</p>
P,X	<p>WO 98 37418 A (CORIXA CORP) 27 August 1998 (1998-08-27)</p> <p>page 2 -page 24 example 2 page 35, line 15 -page 36, line 11 page 81, line 14 -page 83, line 11 claims</p> <p>-----</p>	<p>1-15, 17-19, 21,22, 29-31, 34,35, 39-42, 44-46, 48,49, 58-79</p>



# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 99/15838

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
Remark: Although claims 29-34, 48-49, 52, 55-57  
are directed to a method of treatment of the human/animal  
body, the search has been carried out and based on the alleged  
effects of the compound/composition.
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such  
an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## B x II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all  
searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment  
of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report  
covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is  
restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-79 all partially

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

\*\*\*\*\*  
Invention 1. Claims: 1-79 (all partially)

A polypeptide comprising at least an immunogenic portion of a prostate tumor protein defined as SEQ ID 108 and which is encoded by the related SEQ IDs 2,3,107 (according to the Description of the Sequence Identifiers), fragments and variants thereof, fusion proteins comprising it, polynucleotides or oligonucleotides derived therefrom, antibodies or fragments thereof binding to the polypeptide, pharmaceutical compositions or vaccines comprising these products and their use in methods for inhibiting, monitoring or diagnosing the development of a prostate cancer, for removing tumor cells from a sample or for expanding and/or stimulating T-cells.

## Inventions 2. to 439. Claims: 1-79 (all partially and as far as applicable)

As for subject 1. but concerning respectively SEQ IDs 1,4-106,109-111,115-171,173-175,177,179-305,307-315,326,328, 330,332-335,340-375,381,382 and 384-472.

## INTERNATIONAL SEARCH REPORT

Information on patent family members

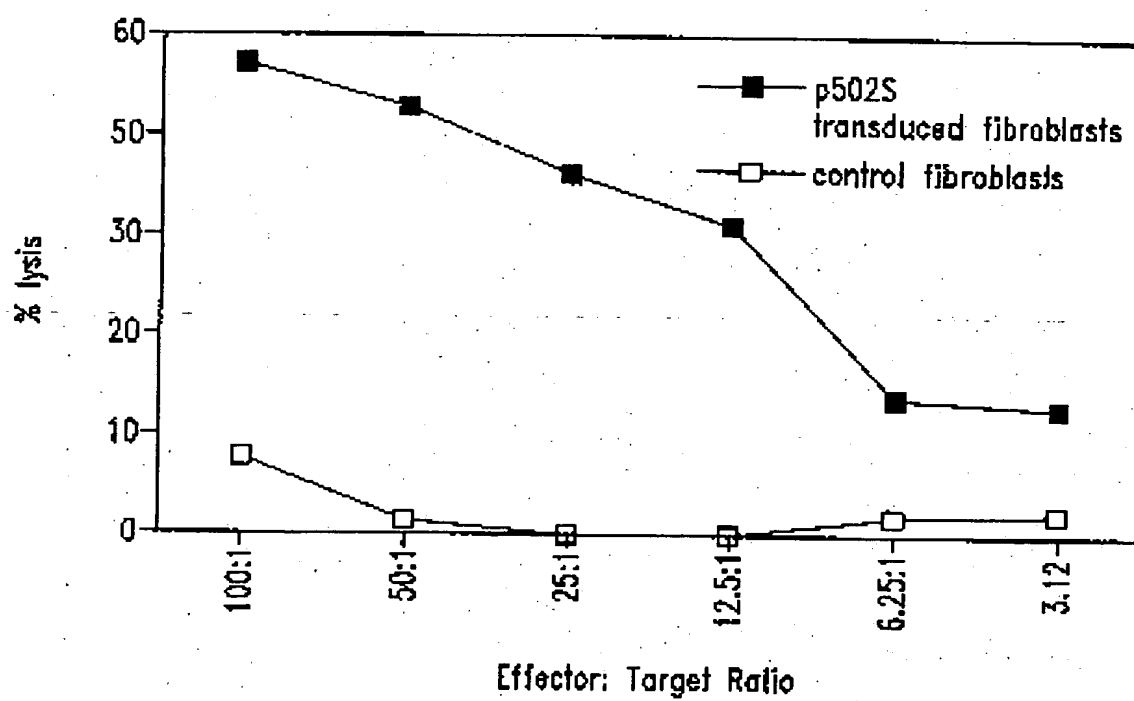
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PCT/JS 99/15838

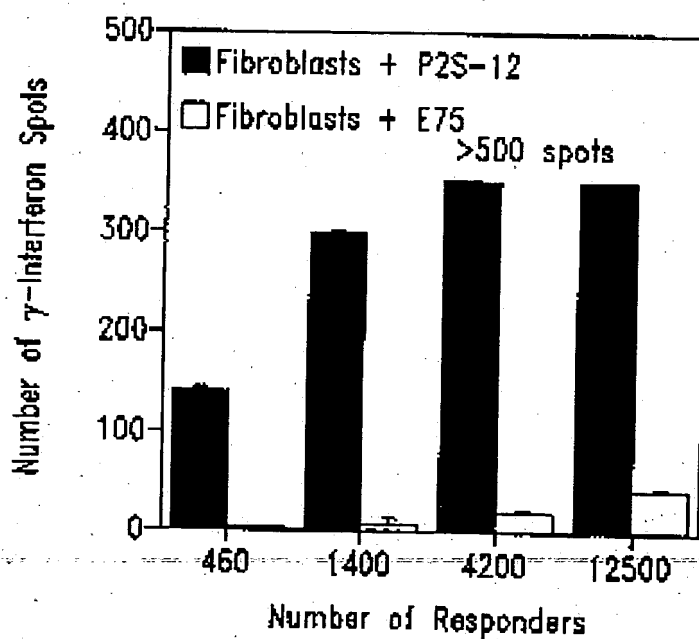
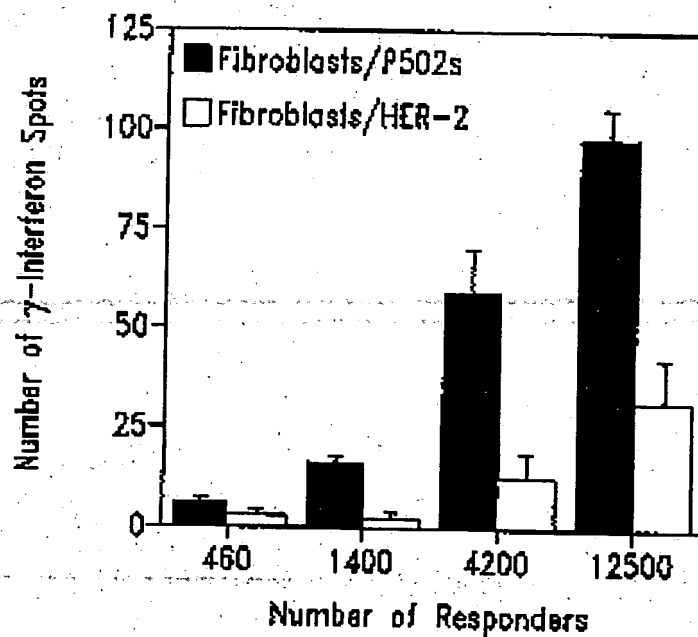
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			ZA	9801536 A	08-01-1999
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*Fig. 1*

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*Fig. 2A**Fig. 2B*

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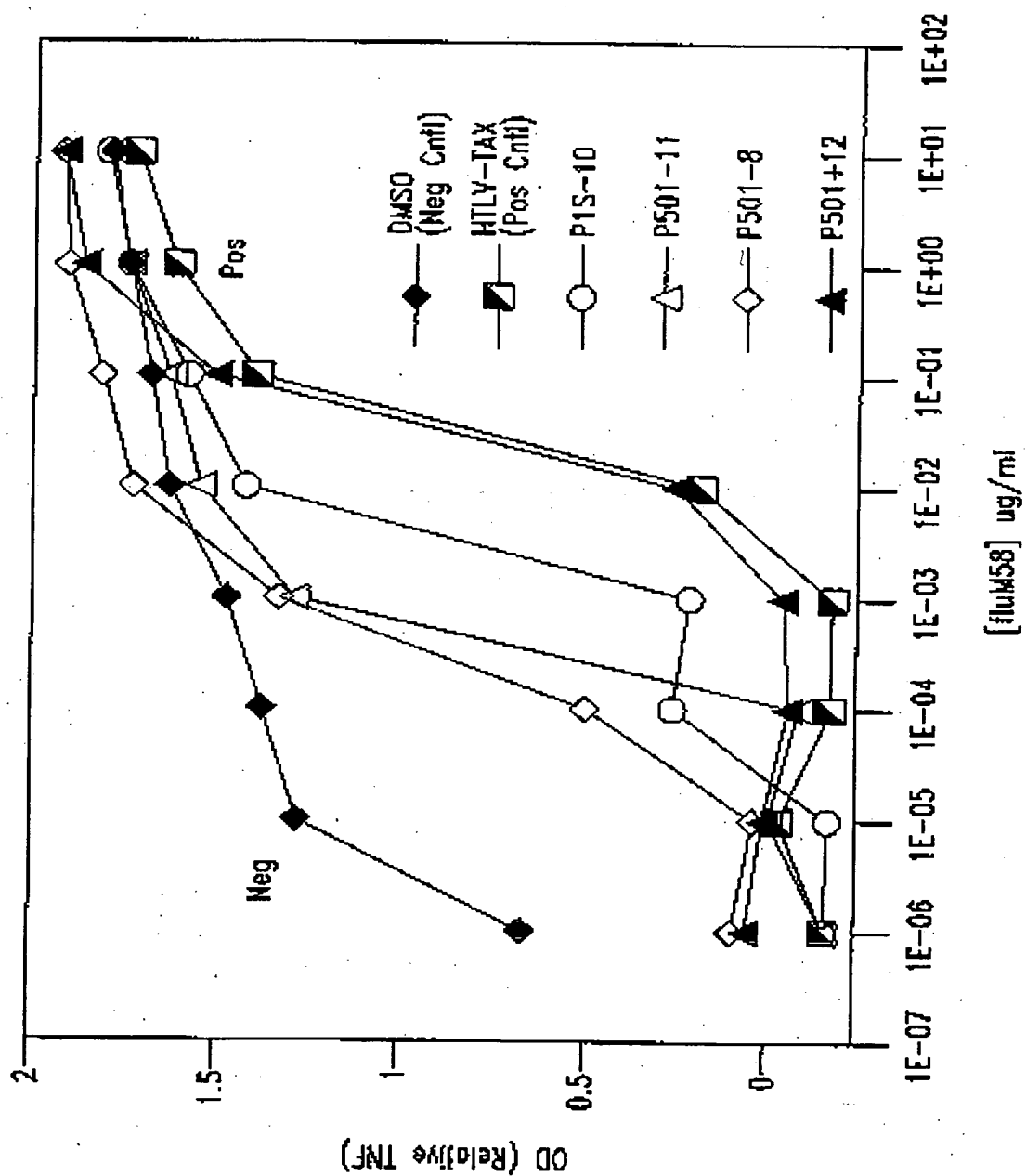
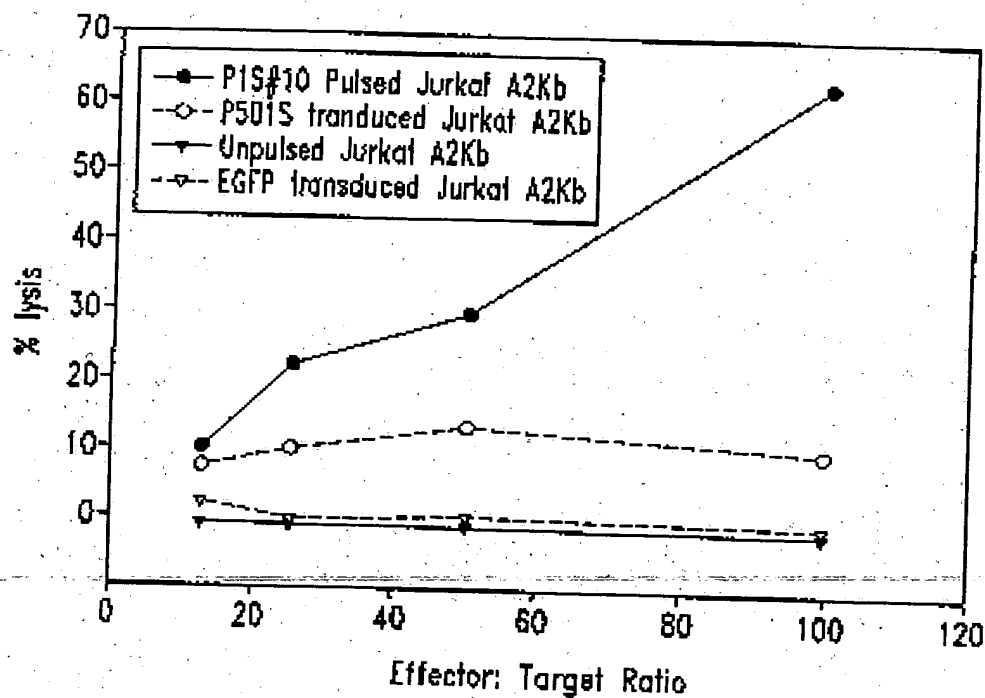
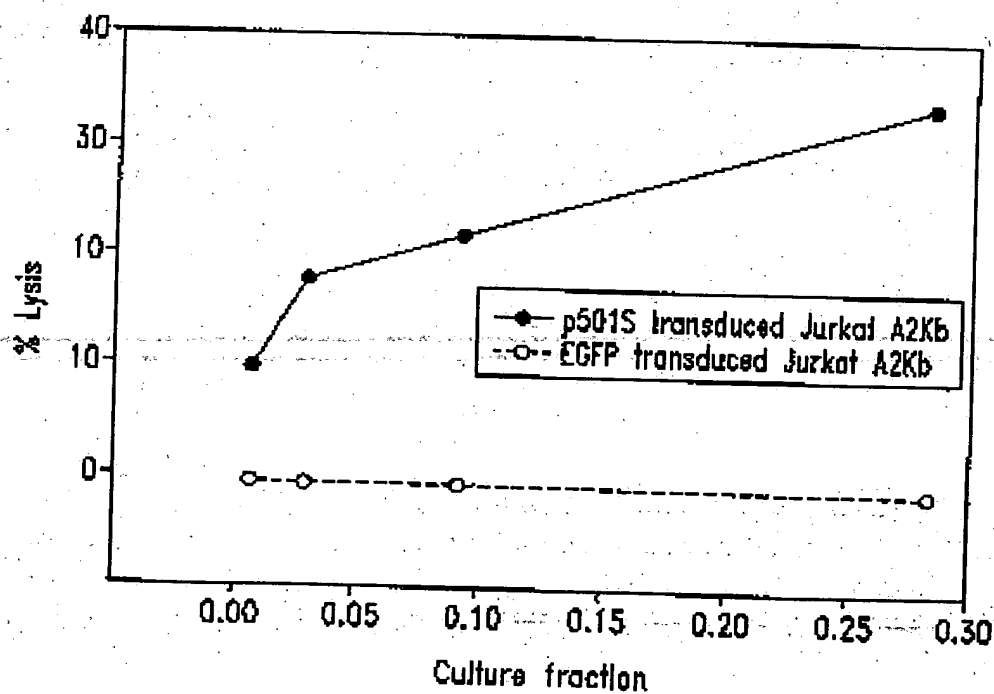


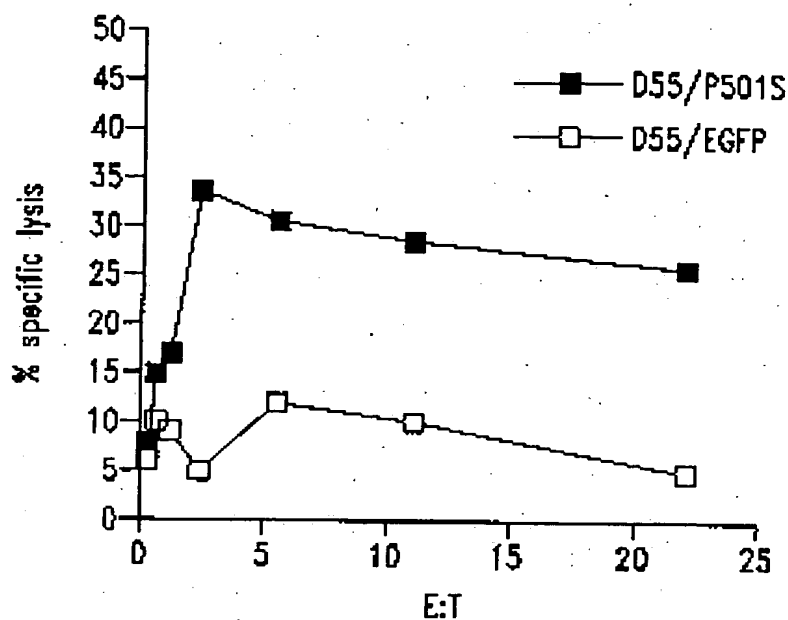
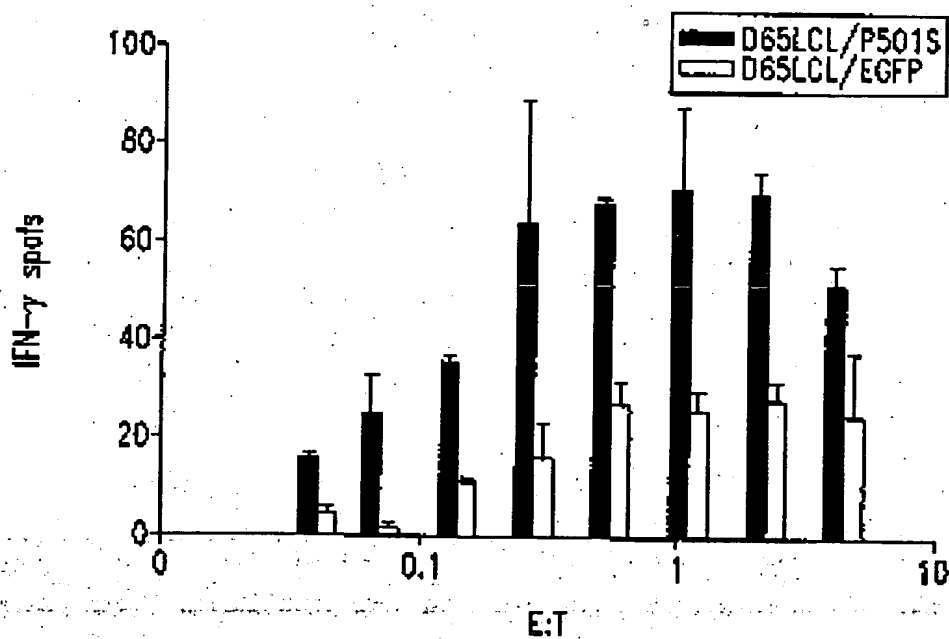
Fig. 3

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*Fig. 4**Fig. 5*



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*Fig. 6**Fig. 7*

SUBSTITUTE SHEET (RULE 26)

## SEQUENCE LISTING

&lt;110&gt; Corixa Corporation

<120> COMPOUNDS FOR IMMUNOTHERAPY AND DIAGNOSIS  
OF PROSTATE CANCER AND METHODS FOR THEIR USE

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&lt;141&gt; 1999-07-08

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&lt;170&gt; FastSEQ for Windows Version 3.0

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 ctacattaaa cgaagctgca ggttaagggg cttanagatg ggaacccagg tgactgagtt 360  
 tatteagctc ccaaaaaccc ttctctagggt gtgtctcaac taggaggcta gctgttaacc 420  
 ctgagccctgg gtaatccacc tgcagagtc cgcattccc gtccatgga cctttctggc 480  
 ctccctgtat aagtcragar tgaaccccc ttggaaggnc tccagtragg cagccctana 540  
 aactggggaa aaaaagaaag gacgccccan cccccagctg tgcactacg cactcctara 600  
 gcacggggtg gcagcaaaan aaccacttta ctctggcaca aacaaaaact ngggggggca 660  
 accccggcac ccnangggg gttaacagga anongggnaa cntgggaccc aattnaggca 720  
 ggccttccac ccnaatntt gctgggaaat ttttccctcc utaaattntt tc 772

<210> 12  
 <211> 751  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...(751)  
 <223> n = A,T,C or G

<400> 12  
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 ttggtgtgtt tggtaggtt gtcattgcaa cagaatgggg gaaaggccct gttctctttg 180  
 aagtanggtg agtctcaca atccgtatag ttggtgaagc caccgcaatt gagcccttcc 240  
 atggtggtgt tccacaottg agtgaagtct tcttgggaac cataatcttt cttagtggca 300  
 ggcactarna gcaacgtcag ggaagtgtc agccattgtg gtgtacacca aggcgaccac 360  
 agcagctgen acctcagcaa tgaagatgan gagganagat aggaagaacg tcncgagggc 420  
 accttgtctc tcagctcttan caccatanca gccctgaaa accaananca aagaccarna 480  
 cncggctgc gatgaagaaa tnaacccnng ttgacaaact tgcattggcac tggganccac 540  
 agtggcccca aaaaatcttc azaaggtatg cccatcnatt gaccccccac atgcccactg 600  
 ccaacagggg ctgccccacn cncnnaacga tgancnatt gnacaagatc tncntggctc 660  
 tnatnaacnt gaaccttgen tngtggctcc tgttcaggnc cngggctga cttctnaann 720  
 aongaeactc gaagncccc a ngganannc g 751

<210> 13  
 <211> 729  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(729)  
 <223> n = A,T,C or G

<400> 13

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tgtgganct	cagcagtncc	ctctttcaga	actcantgcc	aagancctg	aacaggagcc	120
accatgcagt	gcttcagctt	cattaagacc	atgatgatcc	tcttcattt	gctcacttt	180
ctgtgtgtg	cagccctgtt	ggcagtgggc	atctgggtgt	caatcgatg	ggcactcctt	240
ctgaagatct	tggggccact	gtcgtccagt	gccatgcagt	ttgtcaacgt	gggctacttc	300
ctcatcgag	ccggcgctgt	ggctcttagt	ctagggttcc	tgggtgtcta	tgggtgctaag	360
actgaagagc	agtgtgccc	cgtgacgttc	ttcttcctcc	tcttcctcat	cttcattgct	420
gaggttgcaa	tgtgtgtgtc	gccttggtgt	acaccacaat	ggctgagcac	ttcctgargt	480
tgtgtgtaat	gcttgccatc	aaaaaaagat	tatgggttcc	cagggaanact	tcactcaagt	540
gttggaaacac	caccatgaaa	gggtcgaagt	gctgtggtt	cnnccaaacta	taaggatttt	600
gaagantcac	ctaattcaaa	gaaaaanagt	cctttccccc	attttgtgtg	caattgacaa	660
acgtccccc	cacagccaat	tgaaaaacct	caccccaacc	aaanggggtcc	cccaaccanaa	720
attnaeggg						729

<210> 14  
 <211> 816  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(816)  
 <223> n = A,T,C or G

<400> 14

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tgttcagta	aggggttgta	gtaccagcgc	gggatgctct	ccttgccagag	tcttgtgtct	120
ggcaggctca	cgragtgcgc	tctgtcactg	gggaatgga	tgcgtggag	ctcgtcaaag	180
ccactgtgt	atttttcaca	ggcagcctcg	tccgacgcgt	cggggcagtt	gggggtgtct	240
tcacactcca	ggaaactgtc	aatgcagcag	ccattgctgc	agcgggaactg	ggtgggtgta	300
cangtgccag	agcacactgg	atggcgctt	tccatgnnan	gggcccctgng	ggaaagtccc	360
tganccccc	anctgcctct	caaanagccc	accttgcaaa	ccccgcacag	ctagaatgga	420
atcttcttc	cgaaggttag	tttttctgt	tgcaccaacc	ancccntaa	acaaactctt	480
granatctgc	tccgnggggg	tctantacc	anctgtggaa	aagaacccc	ggcngcgaac	540
caancttgtt	tggatncgaa	grnatatct	ncntttctgc	ttggtggaca	gcaccantna	600
ctgttnanct	ttagnccntg	gtctctntgg	gttgncttg	aacctaactc	ccttcaact	660
gggacaaggt	aantngccnt	ccttttaatt	cccnanctnt	ccccctggtt	tggggttttn	720
cncnctcta	ccccagaaan	ncgtgtter	cccccaacta	ggggccnaaa	ccttttnttc	780
cacaaacctn	ccccaccac	gggttcngnt	ggttng			816

<210> 15  
 <211> 783  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(783)  
 <223> n = A,T,C or G



&lt;400&gt; 15

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aagaccaaa	ccaggtggaa	ctgtggggac	tcaaggaang	cacutacctg	ttccagctga	180
cagtgaclag	ctcagaccac	ccagaggaca	cggccaaagt	cacagtcant	gtgctgtcca	240
ccaagcagac	agaagactac	tgcctcgcat	craacaangt	gggtcgctgc	cggggcctt	300
tcccacgctg	gtactatgac	ccracggagc	agatctgcaa	gagtttcgtt	tatggaggct	360
gcttgggcaa	caagaacaar	taccttcggg	aagaagagt	cattctancc	tgtcnggggt	420
tgcraagggtg	gcctttgana	ngcanctctg	gggtcange	gactttcccc	caggggccct	480
ccatggaaag	grgccatcca	ntgtttctctg	gcacctgtca	gcccaccag	ttcggctgca	540
ncaatggctg	ctgcatonac	antttctctg	aattgtgaca	acacccccca	ntgcccccaa	600
ccctccraac	aaagcttccc	tgttnaaaaa	tacnccantt	ggcttttnac	aaacnccccg	660
cncctccttt	ttcccccctn	aaacaaagggc	ncnngccttt	gaactgccc	aaacnnggaa	720
tctnccnngg	aaaaantncc	ccccctgggt	cctnnaancc	cctccncaaa	anctncccc	780
ccc						783

&lt;210&gt; 16

&lt;211&gt; 801

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(801)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 16

gccccaatc	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaaccctc	tactttttgg	tcgtgagcct	tttgcttgg	gcagggttca	120
ttggctgtgt	tggtagcgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtaggggtg	agtcctcaaa	atcgtctatg	ttggtgaagc	cacagcactt	gagccctttc	240
atgggtggtgt	tcacacactg	agtgaagctt	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	gaagtgtcca	gccattgtgg	tgtacaccaa	ggcgaccaca	360
gcagctgcaa	cctcagraat	gaagatgagg	aggaggatga	agaaagaacgt	cncgagggca	420
cacttgctct	cgtctttagc	accatagcag	ccuangaac	caagagcaaa	gaccacaacg	480
cngctgrra	atgaaagaaa	ntacccacgt	tgacaaactg	cctggccact	ggacgacagt	540
tggcccgaa	atcttcagaa	aagggatgcc	ccatcgattg	aacacccana	tgcccactgc	600
cnacagggct	gcnccnccn	gaagaatga	gcattgaa	aaggatcttc	ntggtcttaa	660
tgaactgaaa	ccttgcatgg	tggccctgt	tcagggtct	tggcagtga	ttctganaaa	720
aaggaaacng	ntnagcccc	ccaaangana	aaacacccc	gggtgttgcc	ctgaattggc	780
ggccaaggan	cctgcccnn	g				801

&lt;210&gt; 17

&lt;211&gt; 740

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(740)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 17

gtgagagcca	ggcgtacctc	tgcctgcccc	ctcagtggca	acaccoggga	gctgttttgt	60
------------	------------	------------	------------	------------	------------	----

cctttgtgga	gctcagcag	ttccctcttt	cagaactcac	tyccnagagc	cctgaacagg	120
agccaccatg	cagtgcctca	gcttcattaa	gacctgatg	atctcttcca	atttgcctat	180
ctttctgtgt	ggtgcagccc	tgttggcagt	gggcactctg	gtgtcaatcg	atggggcactc	240
ctttctgaag	atcttcgggc	cactgtcgtc	cagtgcocatg	cagtttgtca	acgtgggcta	300
ctccctcctc	gcagccggcg	ttgtggtctt	tgtctctggt	ttcctgggct	gctatgggtgc	360
taagacggag	agcaagtgtg	ccctcgtgac	gttcttcttc	atcctcctcc	tcactctcat	420
tgttgaaagt	gcagctgctg	tggtcgcctt	ggtgtacacc	accaatggctg	aaccattcct	480
gacgttgctg	gtantgctg	ccatcaanaa	agattatggg	ttcccaggaa	aaattcactc	540
aantntggaa	caconccatg	aaaaggggctc	caattttctgn	tggcttcccc	aactatacrg	600
gaattttgaa	agantcncct	tacttccaaa	aaaaaanant	tgcrttbncc	ccctttctgc	660
tgcaatgaaa	acntcccaan	acngccaatu	aaaacctgac	cnmcaaaaa	ggntcncaaa	720
caaaaaant	maagggttn					740

&lt;210&gt; 18

&lt;211&gt; 802

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (802)

&lt;223&gt; n = A, T, C or G

&lt;400&gt; 18

ccgctgggtg	cgctgggtcc	gngnagccac	gaagcacgtc	agcatacaca	gctcaatca	60
caaggctctt	cagctgcgcg	acattacgca	gggcaagagc	ctccagcaac	actgcataatg	120
ggatcacatt	tactttagca	gccagggtga	caactgagag	gtgtcgaagc	ttattcttct	180
gagcctctgt	tagtggagga	agattccggg	cttcagctaa	gtagttagcg	tatgtcccat	240
aagcaaacac	tgtgagcagc	cggaaaggtag	aggcaagtc	actctcagcc	agctctctaa	300
cattggggcat	gtccagcagt	tctccaaaca	cgtagacacc	agnggcctcc	agcactgat	360
ggatgaagtgt	ggccagcgct	gcccccttgg	ccgacttggc	taggagcaga	aattgtcct	420
ggttctgccc	tgtcaccttc	acttergcac	tcatacactgc	actgagtgtg	ggggacttgg	480
gctcaggatg	tccagagarg	tggttccguc	ccctcncctta	atgacaccgn	ccanncaacc	540
gtggctctcc	gccgntgng	ttcgtctgnc	ctgggtcagg	gtctgtctgac	cactacttgc	600
aactctcgtc	nggcccattg	aattcacenc	acgggaactn	gtangatcca	ctnnttctat	660
aacggngcgc	caccgcnhnt	ggaaetccac	tcttnttnc	tttacttgag	ggtaaggtc	720
acccttnncc	ttacttgggt	ccaaaccntn	cctgtgtctg	anattngtna	tcnggncna	780
tnccancnc	atangaagcc	ng				802

&lt;210&gt; 19

&lt;211&gt; 731

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (731)

&lt;223&gt; n = A, T, C or G

&lt;400&gt; 19

cnaagcttcc	aggtnacggg	ccgcnaence	tgaccnagg	tancanaang	cagncngcgg	60
gagccacccg	tccagngngg	gngtctttat	ngggaggggc	ggagcccat	ccttggaent	120
cctgacccca	actcccccnc	nencantgca	gtgatgagtg	cagaaactgaa	ggtnacgtgg	180
caggaaacca	gancaaannc	tgtccnntc	ccagtcggcn	nagggggcgg	ggctggccac	240
gencatccnt	cnagtgtctn	aaagccccnn	cctgtctact	tgtttggaga	acngcnngga	300

catgcccagn	gttanataac	nggcngagag	tnanttttgc	tetcccttcc	ggctgcgrcn	360
ngngtntget	tagnggarat	aacctgacta	cttaactgaa	cccnngaate	tnccnccct	420
ccactaagct	cagaacaaaa	aacttcgaca	ccactcantt	gtcacttgn	tgttcaagta	480
aagtgtaccc	catncccaat	gtntgctnga	ngctctgncc	tgcctlangt	tgggtccctg	540
gaagacctat	caattnaagc	tatgtttctg	actgcctctt	gotccctgna	acaaacnacc	600
cncnntcva	aggggggggc	ggcccccaat	ccccccaacc	ntnaattnan	tttancccn	660
ccccnggac	cggtctttta	cnancntcn	nnacngggga	aaacnnngc	tttccccaa	720
naatcchcc	t					731

&lt;210&gt; 20

&lt;211&gt; 754

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(754)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 20

tttttttttt	tttttttttt	taaaaacccc	ctccattnaa	tgnaaacctc	cgaaattgtc	60
caaccccctc	ntccaaatun	ccntttccgg	gggggggttc	caaacccaan	ttanttttgg	120
annttaaatt	aatnttont	tgnggggnna	anccnaatgt	nangaaagt	naacccanta	180
tnancttnaa	tncttggaac	ccngtngntt	ccaaaaatnt	ttaaccccta	antccctccg	240
aaatngttta	nygaazaccc	aantctctnt	aaggttgttt	gaaggntnaa	tnaaaanccc	300
nnccaaattgt	ttttingccac	gcctgaatta	attggnttcc	gntgttttcc	nttaaaanza	360
gggnanccccc	ggttantnaa	ccccccnnc	ccaaattata	ccganctttt	ttngaattgg	420
gancccccgg	gaattaacgg	ggnnntccr	tnntgggggg	cnngnncccc	ccccntccgg	480
gggtnggggc	aggnccnaat	tgtttaaggg	tcggaaaaat	ccctccnaga	aaaaaanctc	540
ccaggntgag	natnggggtt	ccccccccc	canggccrct	ctcguaanagt	tggggtttgg	600
ggggcctggg	attttnttcc	ccctnttccc	ccccccccc	cnnggganag	aggttngngt	660
tttngtcnnc	ggcccccncn	aaganccttt	ccgancttna	ctaaatccnt	gcctnggcga	720
agtcctttgn	agggntaaan	ggccccctnn	cggg			754

&lt;210&gt; 21

&lt;211&gt; 755

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(755)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 21

atcancccat	gaccccnacc	nnggggacnc	tcancgggnc	noncnacnnc	cgggcnatca	60
ngtnagnc	actncnntn	natccnccc	cnccnactac	gcccncnanc	cnacgcncctc	120
nncanatncc	actganngcg	cgangtngan	ngcgaaanct	natarcanag	ncaccanacn	180
ccagctgtcc	nanaangcct	nnnatacngg	nnnatcccat	ntgnancctc	cnaggtattn	240
nnccnccan	gattttccct	anccgattac	ccntncccc	tanccctctc	cccccaacna	300
cgagggcct	ggncnnaagg	nnccgnncnc	ccgtagntc	ccnncaagt	cnncncccta	360
aartcanccn	nattacnccg	ttcntgggta	tcactcccg	aatctcacc	tactcaactc	420
aaaaanaten	gatacaaat	aatncaagcc	tgnttatnac	actntgactg	ggctctctatt	480
ttagnggtcc	ntnaancncc	ctaatacttc	cagctctnct	tncccaattt	cnnaanggct	540
ctttcngaca	gcanttttgg	gttcccnntt	gggttcttan	ngaattgccc	ttcntggaac	600

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gggtctctct tttcttctgg ttancttggg ttcnncggg cagttattat ttccttttt 660
aaattcttnc cttttatttt tggcnhtcna aagccccggc cttagaaaaag gccctctggg 720
aaaaggttgt tttgaaaaa tttttgttt gttaa 755

```

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<210> 22
<211> 849
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(849)
<223> n = A,T,C or G

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```

<400> 22
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acgtctnggan taangcgacc cgaattctag gannncnccct aatcatcanac tgtgaagatn 120
atcctganna uggaaanggtc accggnggal nttgcttaggg tgnctnctcc camnctttn 180
cataacteng nggcccctgac caccaccttc gggggccchg ngncrvgggcc rgggtcattn 240
gnnttaaccn cactnnngca ccggtttccn nccvccnng acccngggca tccggggtnc 300
tctgtcttcc cctgnagncn aaaaaatggg ccccggnccc ctttaccctt nnaaaagcca 360
cngccttcta nccnngccc cccctccant nnggggggact gccnanngtt cgttctctng 420
nnaaccnann gggtnccctg gttgtcgaut cnaccgnang ccanggatc cnaaggaagg 480
cgggttnttg gcccttacc cctgctnccg nncacccttc ccgacnanga nccgtcccg 540
cncnngnng cctcncctg caacacccgc nctctctngt nccginnccc cccacccgc 600
nccctcncn ngncgnanct ctcnccncc gtctcannca ccaaccgcc ccgucaggcc 660
ntcancnccn ggnngacnng nagnccnctc gncnccgcn ggnncncc cgtcnngaa 720
ctnctctngg ccantnccg tcaanccna cnaaacgcc ctgcccggcc cgnagcnc 780
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nncanggg 849

```

```

<210> 23
<211> 872
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(872)
<223> n = A,T,C or G

```

```

<400> 23
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tctgaenanc ccgattnggc ngatatcnan aagctcgcnc agtccaaact gantaaaca 120
caccnchnan aganaatcc nctgcttcc anagtanacn attgaacnng agaaccangc 180
ngggaatcg taatnagggg tgcgcgcga atntglcncc gtttatntn ccagctcnc 240
ctnucnacc taentcttn nagctctcn acccctngtn cgnaccccc naggtcggga 300
tcgggtttn nttgacccng cncnccctcc cccctccat nacganccn ccgcaccac 360
nangcnccg ncccggnct cttcgcncr ctgtctntu cccctgtngc ctgacnngn 420
accgcatga ccttcgcn ctnnngaaa ncnanacgt cgggattgun annanngctg 480
tgggnnngcg tctgcncgc gttcctccn ncncttccn ccatcttct taongggct 540
cncggccttc tcnncacnc cttgggaagc tntctntgc ccccttnc tcccacctt 600
cgnctgncc cgncccccac ntcatttca nactcttc acaannnct ggntrnctc 660
cncnngnng gtcancnag ggaagggng ggnccnctg nttgacgttg ngngangtc 720
cgaanctcc tcnctctcn cctacccct cgggcnnct ctngttnc aacttanca 780

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ntctcccccg ngngcncntc tcaguctonc cccccccct ctctycantg tntctctctc 840  
tnaccnntac gantnttcgn cccctctctt cc 872

<210> 24  
<211> 815  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)... (815)  
<223> n = A,T,C or G

<400> 24  
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nctgncttcc tgtgtcaaat gtatacnaaa tanatatgaa tctnatnba caaganngtc 120  
tcntncatta gtaacaantg tontgtcoat cctgtcngan canatterca tnnattncgn 180  
cgcattmncn gcnccntatn taatngggaa ntcnnntnon ncccnncat ctatctncc 240  
gcnccttgac tggagagat ggatnattc tntntgacc nacatgttca tcttggattn 300  
aanaccccc cgcngncac cggttngng cngccnntc ccaagaccc ctgtggaggt 360  
cccttggtc aganncatra aacntggga acccgcnnc angbnnagt ngnnncan 420  
gatercgtrc agnntnacc atcccttcc agcgccccct ttngtgccct anagnnagc 480  
gtgtccnanc vntcaacat ganacgcgc agnccancc caatlnggca caatgtcngc 540  
gaacccccca ggggggantn tncaanccr caggattgtc vnncnngaa atcccncc 600  
ccnccctac cccncttgg gacngtgacc aanteccgga gtnccagtc ggcngnctc 660  
cccccccggt nncntgggg gggggaanct cngnntcanc cngncgaggn ntcgnaagga 720  
accgncctn ggcggaanng ancnntcnga agngccnnt cgtataacc cccctcncc 780  
nccnccngnt agntccccc cngggtnccy aangg 815

<210> 25  
<211> 775  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)... (775)  
<223> n = A,T,C or G

<400> 25  
ccgagatgtc tcgctccgta gacttagctg tgrtcgagct actctctctt tctggcctgg 60  
aggctatcca ycgtaactca aagattcagg ttactcacg tcatccagca gagaatggaa 120  
agtaaatctt cctgaattgc tatgtgtctg ggtttcatcc atccgacatt gaanttgact 180  
tactgaagaa tgganagaga attgaaaaay tggagcattc agacttgtct ttcagcaagg 240  
actggtcttt ctatctctg tactacactg aattccccc tactgaaaa gatgagtatg 300  
ctgtccgtgt gaaccatgtg actttgtcac agcccaagat agttaagtgg gatcgagaca 360  
tgaagcagc cncatggaa gtttgaagat ggcgcatttg gattgagatga attccaaatl 420  
ctgcttgctt gcntttlaat antgatatgc ntatccccc taccctttat gncccraat 480  
tctaggggtt acatnangt tcnctngga catgatctt ctttataant cccncttcc 540  
aattgcccgt cncnngttt ngaatgttt cnaaccacg gttggctccc ccaggtcnc 600  
tcttaggaa gggcctgggc cnccttncan ggttggggga acaaaaatt tcncttntgc 660  
cncnccccc cmtcttng nncnctt tggacccttc cnatccccc tggctcnna 720  
ncttuncta aaaaaactt aanaogtngc naaantttt acttccccc ttacc 775

<210> 26

<211> 820  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(820)  
 <223> n = A,T,C or G

<400> 26  
 anattantac agtgtaatct tttccagag gtgtgtanag ggaacggggc cttagggcat 60  
 cccanagata ncttatnca acagtgttt gaccaaagac tgotgggcac atttctgca 120  
 gaaaaggtgg cggtcercat cactctctct ccccatagc catccagag yggtagtag 180  
 ccacacagcc ttoggtggg gggagtcang gaacacacac accacagagc anacagacca 240  
 ntgatgacca tgggcggggag cagagctctt cctgnacrg gggtggcana ngnagacct 300  
 nctgaggggt ccaactataa acgttaacga cmagatnan cactgcttc aagtgcaccc 360  
 tctctacctg acnaccagng accnnnaact gngcctggg garagcncctg ggancagcta 420  
 acnnagcact cactgccc ccctatggcg tncgntccu tggctctgnc aaggggaagct 480  
 cctgtttgga attncggga naccagggg nccccctct ccancgtga aggaaaaann 540  
 gatggaattt tnccttccg gccntccc tctctctt cagccccc notactctc 600  
 tctctctctt nctctgnc ccttttnac cennnattt ccttnattg cggannctn 660  
 ganattccac tnnccctnc cntenatng naanacnaa nactntctna cccnggggat 720  
 ggganctctg nctatctct ctttttctt accnccnnt ctttgcctct ccttagatca  
 780ctcaacntc gntggcctn ccccccnnt tcttttccc  
 820

<210> 27  
 <211> 818  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(818)  
 <223> n = A,T,C or G

<400> 27  
 tctgggtgat ggctcttcc tctcagggg cctctgactg ctctgggcca aagaatctct 60  
 tgtttctctt cagagcccca ggcaggggtg attcagccct gcccaacctg attctgatga 120  
 ctgaggatgc tgtgacggac ccaaggggca aatagggtcc cagggtccag gggagggggc 180  
 ctgctgagca attccgcccc tcaacctgac cagccctgac catagctctt gggctgggtc 240  
 tccagctcca gggttctgct ctccacagca nccanccag tggcgttggg ccaactggc 300  
 ttctctctgc cctctccctg gotctganc tctgtcttcc tgtctgtgc angcnccttg 360  
 gatctcagtt tccctcctc anngactct gttctgann tcttcannta actntgantt 420  
 tatnaccnan tggctgtnc tgtcnactt taatgggcn gacgggtcaa tccctccctc 480  
 nctcccttcc anttcmnna accncttnc cntctctcc cntancccg ccnggggaanc 540  
 ctcccttggc ctanccagg gccnnnaccg cccntnctn ggggggcnng gtnnctnnc 600  
 ctgntnacc cncctcnnt tncctgtct cnnccnccg nngcannctc nngtcccn 660  
 tnnctctcn ngntcgnaa ngntcnctn tnnnnngn ngtntnctn tccctctcnc 720  
 cnnctgnaag tnnctnnnc nngnnccccc nnnccnnnn nngnnctnn tptncnngc 780  
 cccnnccccc ngnattagg cctccnctc cgggcnc 818

<210> 28  
 <211> 731  
 <212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)... (731)

<223> n = A,T,C or G

<400> 28

aggaaggggcg	gagggetatt	gtanaggatc	gagggatagg	agnateangy	gggaggtgtg	60
tcccaacatg	anggtgnngt	tctcttttga	angagggttg	ngtttttann	ccnggtgggt	120
gattnaaccc	catgtgatgg	agnnaaagg	tttnagggat	tttctggctc	ttatcagtat	180
ntanattcct	gtnaatcgga	aatnatntt	tannngyaa	aatnttgctc	ccatccgnaa	240
atttctcccg	ggtagtgcac	nttngggggn	cngccangtt	tcccaggctg	ctanaatngt	300
actaaagntt	naagtgggan	tncaaatgaa	aacctnncc	agagnatccn	taccgactg	360
tnntttncct	tggccctntg	actctgcnn	agcccaatar	ccnngngnat	gtcnccmgn	420
unngcggncc	tgaannnncc	tgnnggetnn	gancatcang	gggtttcgca	tcaaaagcnn	480
cgtttencat	naaggcactt	tngcctcacc	caaccnctng	ccctcnncca	tttngccgtc	540
nggtctncct	acgtctntng	cnctctnnnt	ganattttnc	ccgcttnggg	naancctcct	600
gnaatgggta	gggnccttnt	tttctaccnn	gggtcttact	aatcnnctnc	acgtctnctt	660
tctcnacccc	cccccttttt	caatccacnc	ggcnaatggg	gtctccccnn	cgangggggg	720
nnnccanncc	c					731

<210> 29

<211> 822

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)... (822)

<223> n = A,T,C or G

<400> 29

actagtccag	tgtgggtggaa	ttccattgtg	ttgygggncc	ttctatgant	antnttagat	60
cgctcanacc	tccancctc	ccnancngc	ctataangaa	naanaataga	netgtcnnt	120
atntntacnc	tcatanncct	cnnaaccacc	tccctcttaa	ccctactgt	gcctatngcn	180
tnnctantct	ntggcgctn	cnanccaccn	gtgggcnac	cnngngnat	ctcnatctcc	240
tenccatntn	gcctananta	ngtncatcc	ctatacctac	ccaatgcta	nnnctaanen	300
tccatnantt	annataacta	ccactgaent	ngactttcnc	atnanctcct	aatttgaaac	360
tactctgact	cccacngcct	annattagc	ancntccccc	nacnatntct	caacczaate	420
ntcaaccaacc	tactctantg	ctcnccaacc	nttncctccg	atcccccnae	aaccccccctc	480
ccaatatacc	nccacctgac	ncctaaccnn	caccatcccg	gcaagccnnc	gynccatttan	540
ccactgggaat	cacnatngga	naaaaaaaac	cnnaactctc	tancncnnat	ctccctlaana	600
aatnctcctn	naatttactn	ncantnccat	caanccacn	tgaacnnnaa	ccccgttttt	660
tanatccctt	ctttcgaaaa	ccnacccttt	annncccaac	ctttnggggc	ccccnctnc	720
ccnaatgaag	gncncccaat	cnangaaacg	nccntgaaga	ancnaggcna	anannntccg	780
canatcttat	cccttanttn	ggggncctt	nccnngggcc	cc		822

<210> 30

<211> 787

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

&lt;222&gt; (1)...(787)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 30

cgcccgcttg	ctctggcaca	tgcctcctga	atggcatcaa	aagtgalgga	ctgcccattg	60
ctaggagaaga	cctctctctc	tactgtcatt	atggagccct	gcagactgag	ggctccctct	120
gtctgcagga	tttgatgtct	gaagtcgttg	agtgtggtct	ggagctcctc	atctacatna	180
gctggagggc	ctggaggggc	tctctcgcca	gcctccctct	tctctcaccg	ctctccangg	240
acaccagggg	ctccagggcg	cccattatto	ccagnangac	atggtgttct	tcacagcgga	300
cccatggggc	ctgnaaggcc	agggtctcct	ctgacacct	ctctcccgtr	ctgcttgcca	360
ggcctgagg	tcactant	ctanaacggg	cgccaccncg	gtgggagctc	cagcttttgt	420
tcctcttct	gaaggttaat	tgcncgttg	gcgtatctat	nggtcanaan	tnlttctgt	480
gtgaattgt	ttntccctc	ncnattccnc	ncnaccatcn	aaccgggaan	cataaagtgt	540
taaagcctgg	gggtngcctn	ngaatanac	tnaactctat	taattgcgtt	ggctcatggc	600
ccgtttccn	ttcnggaaa	ctgtctctcc	ctgcnctnnt	gaatcgccca	ccccccnggg	660
aaaagcgggt	tgcctttctg	ggggntcctt	ccncttcccc	cctcncctaa	ccctnccgct	720
cggtcgttnc	nggtngcggg	gaaggggnat	nnctcccncc	naagggggng	agnnngntct	780
ccccaaa						787

&lt;210&gt; 31

&lt;211&gt; 799

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(799)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 31

tttttttttt	tttttttggc	gatgtctactg	tttaattgca	ggaggtgggg	gtgtgtgtac	60
catgtaccag	ggctattaga	agcaagaagg	aggaggggag	ggcagagrgc	cctgtctgagc	120
aacaaaggac	tctgtcagcc	ttctctgtct	gtctcttggc	gcaggtccat	ggggagggct	180
cccgacaggt	gggggccacc	agtcragggg	tggaggtact	acanggggtg	ggagtgggtg	240
gtggctggtn	cnaatggcct	gncacanac	cctacgattc	ltgacacctg	gatttcacca	300
ggggaccttc	tyttctacca	nggnaacttc	ntnnatctcn	aaagaacaca	actgtttctt	360
cngcanttct	ggctgttcat	ggaaagccca	ggtgtcctat	ctnggttggg	acttggtaga	420
tatggttcgy	ggccacctct	ccctctnaaa	aaqtaattca	ccccccccc	ccntctnttg	480
cctgggcctt	taantaccua	cacoggaact	canttantta	ttcatcttng	gntgggcttg	540
ntnatcnccn	cctgaangcg	ccaagttgaa	aggccacgcc	gtncnctc	cccatagnan	600
nttttntct	cactaatgc	ccccccnggc	aacnatccaa	tcctccccc	tgggggcccc	660
agccacaggg	ccccgctcg	ggnnccngn	cnegnantcc	ccaggtcttc	ccantcngnc	720
cennngcnc	cccgacgca	gaacanaagg	ctngagccnc	cgcannnnnn	nggttncnac	780
ctcgccccc	cnnngng					799

&lt;210&gt; 32

&lt;211&gt; 789

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(789)

&lt;223&gt; n = A,T,C or G



&lt;400&gt; 32

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttttttt	ggcagggtta	ttgacaacct	ctcggggacac	aancagggtg	gggacaggac	120
ggcaacaggc	tcggggggcg	gcggggggcg	ccctacctgc	ggtacccaat	ntgcagcttc	180
cgctcccgct	tgatnttctt	ctgcagctgc	aggatgcent	aaaacagggc	ctcgggcentn	240
ggtagggcacc	ctgggatctn	aatttccacg	ggcacaatgc	ggtcggcanc	cttcaccacc	300
nattaggaat	agtggnttta	ccnccncccg	ttggcncact	ccnccnccga	accacttntc	360
ggggctccgg	catctgggtc	taaaacctgc	aaacnctggg	gcctcttttt	tggttantnt	420
ncngucaca	atcatnactc	agactggcnc	gggttgccc	caaaaaanyn	ccccaaaacc	480
gggccatgac	ttnnccgggt	tgctgcnatn	tncatcacct	ccggggcncn	ncaggncac	540
ccaaagttc	ttgnggccc	caaaaaanct	ccgggggggc	ccagtttcaa	caaggtcttc	600
cccttggcc	cccaaatcct	ccccccgntt	ntgggttttg	ggaaaccacg	ccctctnctt	660
tggngggcaa	gntggntccc	cttccggggt	ccgggtgggc	ccnctctaa	ngaaacnccc	720
ntcctnncn	ccatccccc	nnnnaacgnc	tancaangna	tccttttttt	taaaaaaggg	780
ccccccncc						789

&lt;210&gt; 33

&lt;211&gt; 793

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{793}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 33

gacaggaacat	gttggatggg	ggagcacctt	tctatacgac	ttacaggaca	gcagatgggg	60
aattcatggc	tgttgagca	atanaaoccc	agttctarga	gclgctgato	aaaggacttg	120
gactaaaglc	tgatgaactc	cccaatcaga	tggacatgga	tgattggcca	gaatggaana	180
agaagtttgc	agatgtattt	gcaaggaaga	cgaaggcaga	gtgggtatcaa	atctttgarg	240
gcacagatgc	ctglatgact	ccggttctga	cttttgagga	ggttggtcat	catgatcaca	300
acaaagaaag	gggtctgitt	atnaccantg	aggagcagga	cgtgagcccc	cgcctgcar	360
ctctgctgtt	aaacacccca	gcctatccct	ctttcabaag	ggatccacta	cttctagagc	420
ggngccccc	gcgggtggag	tccagctttt	gttcccttta	gtgaggggta	attgcccgtt	480
tggcgtaatc	atggtcatan	ctgtttctct	tgtgaabttg	ttatccgctc	acaattccac	540
acaaacatacg	anccgggaag	atnaaatttt	aaagcctggg	ggtngcctaa	tgantgaact	600
nactcanatt	aattgagctt	gcgtcacttg	cccgcttttc	agtcgggaaa	acctgtcctt	660
gcagctgccc	nttaatgaat	cngggccccc	ccgggggaaa	aggcnqtttg	cttnttgggg	720
ngccttccc	gctttcttgc	ttcttgaant	cttccccc	ggtcttttcg	cttgcgggna	780
acggtatena	cct					793

&lt;210&gt; 34

&lt;211&gt; 756

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{756}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 34

gacgggaccc	gcattataga	gcactcaag	ggngagtgga	accgtaaaag	ccccatctt	60
anacagtgcc	gggaanagct	gggtcgactc	agctagtttc	ttctggagct	naacttcttg	120

ccaaccacag	ggaccaagct	gannaaacag	cagctaatte	tggcccggtga	catactggag	180
atcggggccc	aatggagcat	cctacgcgan	gacatccctt	ccttcgagcg	ctacatggcc	240
cagctcaat	gctactactt	tgattacaa	ggcagctcc	cagagtcagc	ctatatgrac	300
cagctcttgg	gacctcaacct	cctcttctct	ctgtcccgag	acgggggtgg	tgantccac	360
acgganttgg	anccgctgcr	tgrcccaang	calacacnac	aatgtctaca	tunaccacca	420
gtgtccttga	gcaatattga	tggangggcg	ctaccncaa	gtttctctgg	ccnagggtta	480
cataccccc	cgagagctac	accttcttca	tggacatct	gtctgacact	atcagggtatg	540
aaaatcgeng	ggttctctca	gaaaggctnc	aanaaanatc	ttctccttga	aggccccggg	600
atcncctagt	ncatagaatc	gccccccatc	gggtggganc	ctccaacctt	togtttccct	660
ttactgaggg	tttatttggc	cctttggcgt	tatcatggtc	amucngttt	cctgtgttga	720
aattnttaac	cccccaaat	tccanggcna	catting			756

<210> 35  
 <211> 834  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (834)  
 <223> n = A,T,C or G

<400> 35

ggggatctct	anattacact	gnatgcctga	ttgtcgggtg	ggtcggcctg	gatgaanatg	60
aacaggatct	tgcctcttga	gotctcggct	gtgtntttta	agtgtctcag	tctgcccgtca	120
tgttcagaca	cncctcttgg	caaaaaacan	caggatntga	gttttgattt	caactccaat	180
aattctteng	gctgtctgct	ggttgaactc	gatgacnang	ggcagctggg	tgtgtntgat	240
aaantccanc	angtttctct	tgttgacctc	cccttcaag	ttgttcgggc	cttcatcaaa	300
cttctnnaan	angannanc	cancctttgt	gagctggnat	ttgganaaca	cgtracrgtt	360
ggaaactgat	cccaaatggg	atgtcatcca	tgcctctctg	tgcctgcaaa	aaacttgctt	420
ggcncaaate	cgactcncn	tcttggaaag	aagccnatca	cacccccctc	cctggactcc	480
nncaangact	ctnccgctnc	ccctccnng	cagggttgg	ggcannccgg	gcccctgggc	540
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ggaanccgtc	tctcccttcc	tgaannaaat	ttgaccgtng	gaatagccgc	gcntcncnt	660
acntnctggg	cggggttcaa	antccctccn	ttgncntcn	cctcggggcc	ttctggattt	720
ncnaactttt	ttcttccccc	ccccccnccg	ngtttggntt	tttcatnggg	ccccaaactc	780
gotnttggcc	antccctggg	gggcntntan	ccccccctnt	ggtccctng	ggcc	834

<210> 36  
 <211> 814  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (814)  
 <223> n = A,T,C or G

<400> 36

cggnccgttt	ccncccgugu	ccggtttcca	tgacnaaggc	tcccttcang	ttaaetacnn	60
cctagnaaac	attaatgggt	tgtcttacta	ataatcata	cnaaccagta	agcctgcccra	120
naacgccaac	tccagggcaat	cctaccaaa	gaagaaaggc	tggctctccc	acccccgtta	180
ggaaaggcct	gcttctgaag	acccacaaat	ncggctgaat	ctnaagtctt	gtgttttact	240
aatgggaaaa	aaaaataaac	aanagggttt	gttctctagg	utgcccaccc	cagcctggca	300
ctaaaccanc	ccagcgctca	cttctgcttg	ganaaatatt	ctttgtctctt	ttggacatca	360

ggcttgatgg	tatcaactgcc	acntttccac	ccagctgggc	ccccctccc	catntttgtc	420
antganctyg	agggcctgan	ncttagtctc	caaaagtctc	ngccacacaag	accggccacc	480
aggggagtc	ntttncagtg	gatctgucuu	anantaccn	tatcatcmt	gaataaaag	540
gccccgaac	ganatgcttc	cancancctt	taagacccct	aatccctngaa	ccatggtgcc	600
cttcgggtct	gatccnaaag	gaatgttctt	gggtcccaat	ccctcctttg	ttctctacgt	660
tgtnttgga	ccntgctngn	atnacccaan	tganatcccc	ngaagraccc	taccctggc	720
atttganttt	cntaaattct	ctgcuctaen	netgaagca	cnatccccn	ggncnnaen	780
ggngaectca	ngaaggtctn	ngaaaaacca	cnen			814

&lt;210&gt; 37

&lt;211&gt; 760

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{760}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 37

gcattgtgt	cttctcaaa	gttgttcttg	ttgcataac	aaccaccata	ggtaaaagcg	60
gcgagtggt	cgctgaagg	gttgtagtar	cagcgaggga	tgtctctctt	gcagagtcct	120
gtgtcttgc	ggtccacga	atgccttttg	tctctggga	aatggatgg	ctggagctcg	180
tcaanccac	tctgtattt	tccacangca	gctcctccg	agcctccgg	gcagttgggg	240
gtgtcgtac	actccactaa	actgtcgatn	cancagccca	ttgttgcagc	ggacttgggt	300
gggtgacag	gtgccagac	acactggatn	ggcctttcca	tggagagggc	tgggggaaat	360
cnctnangc	caaaatgct	ctraaaggcc	accttgcaaa	ccccgacagg	ctagaaatgc	420
actctcttc	craaaggtag	ttgtctcttg	tggccaagca	ncctccancc	nacaaaaanc	480
ttgcaaaatc	tgtctcttg	gggtcatnna	taccanggtt	ggggaanana	accggcngn	540
ganccnccct	gtttgaatgc	naaggnaata	atctctctgt	cttgccttggg	tgganagca	600
caattgaact	gttaacnttg	ggcggngtgc	cnctnggggtg	gtctgaact	aatcacgctc	660
actggaaaaa	ggtangtgcc	tctcttgaat	tcccaaanct	ccctctngntc	tgggtntttt	720
ctctctncc	ctaaaaatcg	tnttccccc	cnctangggg			760

&lt;210&gt; 38

&lt;211&gt; 724

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{724}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 38

tttttttttt	tttttttttt	tttttttttt	tttttaaaaa	ccccctccat	tgaatgaaaa	60
cttccnaaat	tgtccaaacc	cttcnnccaa	atnnccattt	ccggggggggg	gttccaaacc	120
caaatataat	ttgganttta	aattaaatnt	tnattngggg	aananaaaaa	atgtnaagaa	180
aatttaaccc	attatnaact	taaatnccn	gaaccccttg	gnttccaaaa	atttttaann	240
cttaaatccc	tccgaatctg	ntaanggaaa	accaaattcn	cctaaggctn	tttgaagggt	300
ngatttaaac	ccccctnaat	tnttttnacc	cnngnctnaa	ncatttngnt	tccgggtgtt	360
tcc(nltaaa	entnggtaac	tcccgnatct	gaannccct	aanccaatta	aacccgaattt	420
tttttgaaat	ggaaactccn	nygggaattna	ccgggggtttt	tcccttttgg	gggccatncc	480
ccccctttcc	gggtttgggn	ntaggttgaa	tttttnnang	ccccaaaaaa	ccccccaaaa	540
aaaaaactcc	caagntttaa	ctngaatntc	ccccctccca	ggccttttgg	gaaggngggg	600

```

ttnttggggg cgggggantt ctttccccc ttncncncnc cccccnggt aaanggttat 660
ngnntttgggt ttttggggcc ctttncnggc cttccggatn gaattaaat cccccgggncg 720
ggcg 729

```

&lt;210&gt; 39

&lt;211&gt; 751

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(751)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 39

```

tttttttttt tttttttttt cttcatttta attttttttt tgattttttt taatgtctga 60
caccacata tttatttcac ttgttttttt tatttcattt tatttgtttg ctgctgctgt 120
tttttttttt tttactgaaa gggggggggg aattttgttg ctttttttcc tttttctgta 180
ggcggcctta agttttctaa atttggaaac tctaaggcaag ctgaanggaa aaggggggtt 240
cgcaaatca ctggggggaa nggaaaggtt gotttgttaa tcatgacctt tgggtgggtg 300
ttaactgctt gtacatttac ntctcacttt taattaatg tgcnaange ttaattane 360
cttgggggtt cctcccccac aaccaacccn ctgacaaaaa gtgcengccc ccaatnatg 420
tccggcctnt ctttgaataa cctcngcngaa ngttctcatt ntcccccnc caggtnaaaa 480
tgaagggtta ccatntttta cttccactct acctggcctn gctgaatcc tcnaaaaacn 540
cctcaaanen aattncctng ccccggtcnc gentngtcc ccccggggtt cggggaantn 600
caaccccgga annccntnnc naacnaaatt cggaaatat tcccnatnc tcaattcccc 660
cnnagactnt cctcnaacna cncattttt tttnttccac gaacncgnc cnaaaatgn 720
nnnnccccct cctcngtccn naatcncan c 751

```

&lt;210&gt; 40

&lt;211&gt; 753

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(753)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 40

```

gtggtatttt ctgtaagatc aggtgttctt cctctgtagg tttagaggaa acacccctcat 60
agatgaaaac ccccccggga cagcagcact gcaactgcc aagagccggg gtaggggggg 120
cgccctatgc acagctgggc ccttgagaca gcagggttc gatgtcaggc tcyatgtcna 180
tggtctggaa gggcggtctg taccctgcgtt ggggcacacc gtcagggcc accagggaact 240
tctcaaggtt ccaggcaacn tggttgggac acaccggaga ccagggtgat agcttggggt 300
cggtcataaa cggggtggcg tctgtcgttg gggctggcag ggcctccgc aggaaggcna 360
ataaagggtg cggcccgga cgttccact cgcacttctc naunaccatg angltgggct 420
cnaaccacc accannccgg acttccctga nggaatccc aaatctcttc gttcttggc 480
ttctnctgat ggcctanctg gttgcrcngn atgccaana nccccancc cgggggtccc 540
aaanccccc cctctccttc tcatctgggt tnttntccc ggacnctgg tctctcaag 600
ggaaccata tctcnaacn tactcactnt nccccccnt gnaaccancc cttctaingn 660
ttccncccc nctctgggc cttcaaanan gttncacna cctgggtctg ccttcccccc 720
tncctatct gnaaccnccn ttgtctcan tnt 753

```

&lt;210&gt; 41

<211> 341  
 <212> DNA  
 <213> Homo sapien

<400> 41  
 actatatacca tcacaacaga catgcttcat cccatagact tottgacata gcttcaaagt 60  
 agtgaaccca tcttgattt atatacatat atgttctcag tattttggga gcccttccac 120  
 ttctttaac cttgttcat. atgaacactg aaataggaa tttgtgaaga gttaaaaagt 180  
 tatagctcgt ttacgtagtz agtttttga gtctacattc aatccagaca cttagttag 240  
 tgttaactg tgattttta aaatatcat ttgaggaat tctttcagag gtattttcat 300  
 ctttacttt tgattaatg tgttttatat attaggtag t. 341

<210> 42  
 <211> 101  
 <212> DNA  
 <213> Homo sapien

<400> 42  
 acttactgaa tttagttctg tgctcttctt tatttagtgt tgtatcataa atactttgat 60  
 gtttcaaaa ttctaataa ataattttca gtggctcat a. 101

<210> 43  
 <211> 305  
 <212> DNA  
 <213> Homo sapien

<400> 43  
 acatctttgt tadagtttaa gatgtgtctt taatcaaca ttccttcttg gtctcacc 60  
 tccaggttg tctcacactg taattagagc tattgaggag tttttacagc aatttaagt 120  
 ttagatgctt tgttaagtct agagttctag agttatgttt cagaaagttc aagaaaccca 180  
 cctcttgaga ggtcagtaaa gaggaattaa ttttcatat ctacaaaatg accacaggat 240  
 tggatacaga acgagagtta tcttggtata ctcaagagctg agtacctgcc cgggggccc 300  
 tga 305

<210> 44  
 <211> 852  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)... (852)  
 <223> n = A, T, C or G

<400> 44  
 acataaatat cagagaaaag tagtcttga aatatttacy tccaggagtt ctttgtttct 60  
 gattatttgg tgtgtgtttt ggtttgtgtc caaagtattg gcagttccag ttttcatttt 120  
 ctctccatcc tggggcattc ttcccaatt tatataccag ttttcgtcca tccacargct 180  
 ccagaatttc tttttttag taatatctca tagctcggct gagctttcca taggtcatgc 240  
 tgtgttgtt cttcttttta cccatagct gagccaactgc ctctgatttc aagaacctga 300  
 agacgcctc agatcggctc tccatttta ttaatcctgg gttcttgtct gggttcaaga 360  
 ggtgtcggc gatgaattcc cataagtgag tccctctcgg gttgtgtttt ttggtgtggc 420  
 acttgccagg ggggtcttgc tctttttca tatcagggtg ctctgcaca ggaaggtgac 480  
 tgggtggtgt catgagatc tgagcccggc agaaagtatt gctgtccac aatctactg 540  
 tgtaccata gttggtgtca tctaatagt tctngtcttt ccaggtgttc atgatggaag 600

gctcagtttg	ttcagtccttg	acaatgarat	tgtgltgtga	ctgggaacagg	tcaactactgc	660
actggccgll	ccacttcaga	tgttgcacgt	tyctgtagag	gagntgercc	gcccgtccrtg	720
ccgcccgggt	gaactctgc	aaaatcatgc	tgcacaggtg	ctcgccgttg	atgtcgaact	780
cntggaaagg	gatacaattg	gcattccagct	ggttggtgtc	caggaggtga	tggagccact	840
cccauacrtg	gt					852

&lt;210&gt; 45

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 45

acaaacagacc	cttgcctcgt	aaagacctca	tgtctatcaa	gttggacgaa	tacgtgtccg	60
agttcgacac	catccggagc	atcagcattg	cttcgcagtg	ccctaccgag	gggaactctt	120
gcctcgtttc	tggctggggg	ctgctggcga	acggcagaat	gcctaccgtg	ctgcagtgcg	180
tgaacgtgtc	ggtggtgtct	gaggaggtct	gcagtaagct	ctatgacccg	ctgt	234

&lt;210&gt; 46

&lt;211&gt; 590

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(590)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 46

actttttatt	taaatgttta	taaggcagat	ctatgagaat	galagaaazc	atgggtgtga	60
atttgetagc	aatatttttg	agattacaga	gttttaglca	ttaccaatta	caacgttaaa	120
aagagataaa	tatattccaa	gonnatatca	aatatctaat	gaaagatcaa	ggcaggaaaa	180
tgantataac	taattgacaa	tggaaaatca	attttaatgt	gaattgcaca	ttatctttta	240
aaagctttca	aaanaaenaa	ttattgcagt	ctanttaatt	caaacagtgt	taaatgggtat	300
caggataaan	aactgaaggg	canaaagaa	taattttcac	ttcatgtaac	ncavccanac	360
ttadaatggc	ctaatggcan	ggaaaagca	gtgaaagtag	ggaagtante	aaggtcttct	420
tggctctctaa	cttgccttac	cttttgggtg	tggctttgat	cctctggaga	caggtgccag	480
ggctcctgtt	atatccacaa	ccccagcagc	aagatgaagg	gatgaaagag	gacacatgct	540
gccttccctt	gaggagactt	catctcactg	gccaacactc	agtcacatgt		590

&lt;210&gt; 47

&lt;211&gt; 774

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(774)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 47

acaagggggc	ataatgaaag	agtgggggana	galcttznag	aaggaaaaaa	aacgaggccc	60
tgaacagaat	tttctgnac	aacgggggctt	caaaataaatt	ttcttggggg	ggttcagagc	120
gcttcaetgc	ttgaacttca	aatggatgtg	ggacanaatt	ttctgtaatg	acacctgagg	180
cattacagac	gggactctgg	gaggaaaggt	aaacagaagag	gggacaaagg	ctaatcccaa	240
aacatcaaan	aaaggaaggt	gggtgcatac	ctccuagcct	acacagttct	ccagggtctt	300

```

cttcattcccl: ggaaggacgac agtggaggga ccaactgacca tgcacccagg ctccctgtgtg 360
ctgggtctctg gtcttcagcc cccagctctg gaagccacac ctctgtgat cctgcgtggc 420
ccacactcccl tgaacacaca tcccaggtt atattctctg acatggctga acctctctll 480
cctacttcog agatgctctg ctccctgcag cctgtcaaaa tcccaactac cctcccaacc 540
acggcatggg aagcctttct gacttgcttg attactucag catcttggaa caatccctga 600
ttcccaactc cttagaggca agatagggtg gtttaagagta gggctggacc acttggagcc 660
aggtgtctgg ctcccaattt tggctcattt ccgaagctatg ggarcttggg caagtatct 720
tcatttctat gggcctcatt tcttctac tgcacaaatgg gggataataa tagt 774

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```

<210> 48
<211> 124
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{124}
<223> n = A,T,C or G

```

```

<400> 48
canaaattga aattttctaa aaaggcattt tctctctata tccataaaal gatataattt 60
ttgcaatlat anagatgtgt cacaattat aatgttctt aallacagot caacgcaact 120
tggt 124

```

```

<210> 49
<211> 147
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{147}
<223> n = A,T,C or G

```

```

<400> 49
gocgatgcta ctattttatt gaaaggaggtg ggggtgttlt tattattctc tcaucagctt 60
tgtggctaca ggtgggtgtct gactgcata aaaaattttt tccgggtgat tgcacaaatt 120
ttagggcacc catatcccaa gcaatgt 147

```

```

<210> 50
<211> 107
<212> DNA
<213> Homo sapien

```

```

<400> 50
acattaaatt aataaaggga ctgttggggc tctgtcaaaa cacatggctt gatataattgc 60
atgggttag gttaggagga gttaggcata tgtttcggga gagggt 107

```

```

<210> 51
<211> 204
<212> DNA
<213> Homo sapien

```

```

<400> 51
gtcctaggga gtctaggga cacacgactc tgggttcacg gggcchacac acttgcangy 60

```

cggggaggaa aggcagagaa glgacacccgt cagggggga	tyacagaaag gaaatcaag	120
gccttgcaag glcagaaagg ggactcaggg cltccaccac	agccctgccc cacttggcca	180
cctccctttt gggaccagca atgt		204

<210> 52  
 <211> 491  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(491)  
 <223> n = A,T,C or G

<400> 52		
acaaagataa cclttatctt ataacaanaa lttgatagtt	ttaaaggltt gtattgtgtt	60
gggtattttt cnaagacta asgaqtanc tcaggtaaaa	agttagaat gtataaana	120
ccatcagaca ggltttttaa aaacaacata ttacanaatt	agacaatcat ccttaaaaaa	180
aaaactctct gtatcaattt ctlttcttca aattgactga	cttaantatt tttaatatt	240
tcnaaaacac ttctcaaaa attttcaana tggtaacttt	canatgttcc ctcagtccca	300
atgttgctca gataaataaa tctcgtgaga acttaaccac	caccacaagc tttctgggac	360
atgcaacagt gtcttttctc tctttttctt tttcttttt	ttacaggcac agaaactcat	420
caattttatt tggataacaa agggctctca aattatattg	aaaaataaat ccaagttaat	480
atcautcttg t		491

<210> 53  
 <211> 484  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(484)  
 <223> n = A,T,C or G

<400> 53		
acataattta gcagggtca ttacataaag atgctatttca	ttaanaggtn tatgatctga	60
gtattaarag ttgctgaagt ttggtatttt tatgcagcat	ttctcttttg ctttgataac	120
actacagaa ccttaaggac actgaanaat agtaagtaaa	gttcagaaac attagctgct	180
caatcaaatc tctacataac actatagtaa ttanaacgtt	aaaaaaaagt gttgaaatct	240
gcactagtat anaccgtcc tgcaggata anactgcttt	ggacagaaa gggaaaaaac	300
agctttgant ttctttgtgc tcatangagg aaaggctgaa	ttaccttgtt gctctccct	360
aatgattggc aggtcnggtc aatnccaaaa catattccaa	ctcaacactt ctlttccncc	420
tancctgant ctgtgtattc caggandcgg cggatggaa	gggucagccc ccggtatgtc	480
cant		484

<210> 54  
 <211> 151  
 <212> DNA  
 <213> Homo sapien

<400> 54		
actaaacctc gtgcttgtga actccataca gaaaacggty	ccatccctga acacggctgg	60
ccactgggta tactgtgac aacgcacac acaaaaacac	aaatccttgg cactggctag	120
tctatgtcct ctcaagtggc tttttgtttg t		151



<210> 55  
 <211> 91  
 <212> DNA  
 <213> Homo sapien

<400> 55  
 acctggcttg tctccgggtg gttcccgagg ccccccacgg tccccagAAC ggacacttgc 60  
 gccctccagt ggatactcga gccaaagtgg t 91

<210> 56  
 <211> 133  
 <212> DNA  
 <213> Homo sapien

<400> 56  
 ggccggatgtg cgttgggttat atacaaatat gtrattttat gtaagggact tgagtatact 60  
 tggatttttg gtatctgtgt gttgggggga cggtcacgga accaataacc catggatacc 120  
 aagggacacac tgc 133

<210> 57  
 <211> 147  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(147)  
 <223> n = A,T,C or G

<400> 57  
 acctctggaga acctgagcgg ctgctccggc tutgggatga ggtgatgcan gcnctgggcg 60  
 gactgggagc tgagcccttc cctttgggcc tgcctccagag gattgttggc gaactgcana 120  
 tctcantggg ctggatncat gcagggt 147

<210> 58  
 <211> 198  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(198)  
 <223> n = A,T,C or G

<400> 58  
 acagggatat aggtttttag ttattgttat tgcataatan attgaatttt ctgtatactc 60  
 tgattacata ctttctactt ttaaaaaaga tgtaaatctt aatttttatg ccatctatgc 120  
 atttactaat gatttacctt gtaaalagga agtcatgata gcactgaatt ttaactagtt 180  
 ttgacttcta agtttggg 198

<210> 59  
 <211> 330  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 59

acacacaaatg	ggttgtaggg	aaqtcttata	agcaaaaacg	gtgatggcta	ctgaaaagat	60
ccattgaaa	ttatcattaa	tgatttttaa	tgacaaagta	tcacaaaact	actcaatttt	120
cacctgtgt	agtttgctaa	aatgggagtt	aactctagag	caatataagt	atottttgaa	180
tacagtcatt	aaatgacaaa	gccagggcct	acaggtgggt	tcacagcttt	ccagacccag	240
caaaaggaat	ctattttatc	acatgggtct	cagttctgtg	tcacaaatac	caatgatatt	300
tttctctctt	attggacttc	tttgaagagt				330

&lt;210&gt; 60

&lt;211&gt; 175

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 60

accgtgggtg	ccttctacat	tcttgacggc	tccttcacca	acatctgggt	ctacttggc	60
gtcgtgggt	ccttctctt	cactctcacc	cagctgggtg	tgctcaccga	ctttgcgac	120
tcttggaaac	agcgtgtgt	gggcaaggcc	gaggaagtgc	attccgtgc	ctggt	175

&lt;210&gt; 61

&lt;211&gt; 154

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 61

acccacattt	tcttctgtg	agcgtgtgtg	acttctcact	gtacatgat	gagggtagt	60
ggttggtgt	cttcaacagt	atcttccct	ttccggatct	gtgagccgg	acagcagtg	120
tggaactgac	agccccgggg	ctccacattg	ctgt			154

&lt;210&gt; 62

&lt;211&gt; 30

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 62

cgctcgagcc	ctatagttag	tcttattaga				30
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&lt;210&gt; 63

&lt;211&gt; 89

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 63

acaagtccct	tcagcaccct	ttgctcttca	aaactgacca	tcttttatat	ttaatgtctc	60
ctgtatgaat	aaaaatgggt	atgtcaagt				89

&lt;210&gt; 64

&lt;211&gt; 97

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 64

acggagatga	ctgagtgggg	acgtctgaatc	tgaatccacc	aataaataaa	ggttctgcag	60
aatcagtgca	tcacaggttg	gtcttgggt	ctgggt			97

<210> 65  
 <211> 377  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (377)  
 <223> n = A,T,C or G

<400> 65  
 acaacaanaa ntcccttctt taggcccactg atgggaacact ggaacccccc tttgatggca 60  
 gcctggcgct ctaggcttg acacagcggc tgggggtttgg gctntccraa accgcacacc 120  
 ccaacccctgg tctaccccca ntcttggtc tgggctgtct ctgcactga acatcagggt 180  
 tccglcataa natgaaatcc caanggggac agaggctcagt agaggaagct caatgagaaa 240  
 ggtgctgttt gctcagccag aacacagctg cctgguatte gccgctgaac tatgaacccg 300  
 tgggggtgaa ctaccccccag gaggaaatcat gctggggcga tgcanggtg ccaacaggag 360  
 gggcgggagg agcatgt 377

<210> 66  
 <211> 305  
 <212> DNA  
 <213> Homo sapien

<400> 66  
 acgcctttcc ctacgaattc agggaaagaga ctgtcgccctg ccttccctccg ttgttgctg 60  
 agaacccgtg tgcctcttcc caacatatac accctctgct catctttgaa ctcaaacag 120  
 aggaactaac tgcacctgg tctcttcccc agtccccagt tcaacctcca tccctcact 180  
 tctccactc taagggatct caacactgac cagcacaggg gccctgaatt tatgtggttt 240  
 ctatatattt tttaataaga tgcacttat gtcatttttt aataaagttc gaagaattac 300  
 tgttt 305

<210> 67  
 <211> 385  
 <212> DNA  
 <213> Homo sapien

<400> 67  
 actacacaca ctccacttgc ccttgtgaga caatttgttc cagcacttta ggaatgctga 60  
 ggtcggacca gccacatctc atgtgcaaga ttgccagca gacatcaggt ctgagagttc 120  
 cctttttaaa aaaggggact tgettaazaa agaagctctag ccargattgt gtgagcagc 180  
 tgtgctgtgc tgyagattca cttttgagag agttctctc tgaagacctga tctttagagg 240  
 ctgggcagtc ttgcacatga gatggggtg gtctgatctc agcactcctt agtctgcttg 300  
 cctctccag ggcaccagc tggccacac tgettacagg gcactctcag atgccatcc 360  
 catagtttct gtgctagtgg accgt 385

<210> 68  
 <211> 73  
 <212> DNA  
 <213> Homo sapien

<400> 68  
 acttaacag atacttttt accccagatg gggatattct ttgtaaaaa tgaanataaa 60  
 gtttttttaa tgg 73

<210> 69  
 <211> 536  
 <212> DNA  
 <213> Homo sapien  
 <220>  
 <221> misc\_feature  
 <222> (1)... (536)  
 <223> n = A,T,C or G

<400> 69  
 actagtcacag tgtgggtggaa ttccattgtg ttggggggtc tcacctctct ctctgcagc 60  
 tccagctttg tgcctctgct ctgaggagag catgcccag catctyagta ccttgcctgt 120  
 cctgctggcc accctagctg tggcctggc ctggagcccc aaggaggagg ataggataat 180  
 cccgggtggc alctataacg cagacctcaa tcatgagtg gtacagcgtg cctttcactt 240  
 cyccatcagc gagtataana aggcacccaa agatgactac tacagacgtc cyctgcgggt 300  
 actaagagcc aggcacccaa ccgttggggg ggtgaattac ttcttcyagc tagaggtggg 360  
 ccgaaccata tgtaccaagt cccagcccaa ctgggacacg tgtgcttcc atgaacagcc 420  
 agaactgcag aagaaacagt tgtgctcttt cgaatctac gaagttccct ggggagaaca 480  
 gaangtccct gggtgaaatc caggtgtcaa gaaatcttan ggatctgttg ccaggc 536

<210> 70  
 <211> 477  
 <212> DNA  
 <213> Homo sapien

<400> 70  
 atgaccccta acagggggcc tctcagccct cctaattgac tcgggcttag cctgtgtgatt 60  
 teacttccac tccctaacgc tctctactat aggcctacta accaacacac taacctata 120  
 ccgatgatgg ccgatgttaa caggagaaag cactatccaa ggcacccaca cccacccgtt 180  
 ccacaaaggc ctctcagacg ggataatcct atttattacn tcagaagttt tttctcttgc 240  
 agggattttt ctgagccttt taccactcva gcttagcccn taccccccaa ctaggagggc 300  
 actggccccc aacaggcatc ccccccgtaa atccccctaga agtcccactc ctanacacat 360  
 ccgtattact cyctcagga gtatcaatca cctgagctca ccatagtcta atagaaaca 420  
 accgaaccca aattattcaa agcactgctt attacaattt tactgggtct ctatttt 477

<210> 71  
 <211> 533  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)... (533)  
 <223> n = A,T,C or G

<400> 71  
 agagcttatg gtacagtgtg atctcagrtt tgcacacaca tttttctacat agatagtact 60  
 aggtattaat agatatgtaa agaaagaaat caccaccatt ataatggtaa gattgggtta 120  
 tgtgatttta gtggtatttt tggcaccrtt atatatgttt tccaaacttt cagcagtgat 180  
 attatttcca taacttaaaa agtyagtttg aaaaagaaaa tctccagcaa gcatctcatt 240  
 taaataaagg tttgtcatct ttaaaaatcc agcantatgt gactttttta aaaagctgtc 300  
 aaataggtgt gacctacta ataattatta gaalacatt taaaaacatc ggtacctca 360  
 agtcagtttg ccttgaaaaa tatcaaatat aactcttaga gaattgtaca taaaggaatg 420  
 cttcgttaatt ttggagtang aggttccctc ctccactttg tatctttaa aagtacatgg 480  
 taaaaaaas eattcacac agtatataag gctgtaaaat gaaagattct gcc 533

<210> 72  
 <211> 511  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(511)  
 <223> n = A,T,C or G

<400> 72  
 tatctacggaa aaacacacca cataattcaa ctanccaaaga anactgcttc agggcgtgta 60  
 aatgaaagg cttccaggca gttatctgat taaagaacac taanagaggg acaaggctaa 120  
 aagcgcgagg atgtctacac tatancaggc gctatttggg ttggctggag gactctgga 180  
 aacratggan agattggcgc tgganacgc cgtggctatt cctcattgtt attacanagt 240  
 gaggttctct gtgtgcccac tggtttgaaa accgttctnc aataatgata gnatagtaca 300  
 cacatgagua ctgaaatggc ccaaacuccg aaagaaagcc caatagatc ctragaannac 360  
 gcttctaggg acaataaccc atgaagaaa galggcctcc ttgtgcgcc gtctgttatg 420  
 atttctctcc attgragcna naaacccgtt cttctaagca aacnucggtg atgatggcna 480  
 aaatacaccn cctcttgag nacnnggagg a 511

<210> 73  
 <211> 499  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(499)  
 <223> n = A,T,C or G

<400> 73  
 cagtgcacgc actggtgcca gtaccagtac caataacagt gccagtacca gtgcacagcac 60  
 cagtggctgg ttcagtgtct gtgccagccu gacggccact ctacatcttg ggcctcttgc 120  
 tggccttggt ggagctgggt ccagcaccag tggcagctct ggtgcctgtg gtctctctca 180  
 caagtgaat tttagatatt gttaatctct ccagtcttct tcttcaagcc aggggtgcac 240  
 ctacagaaac tactcaacac agcaatctag gcagccacta tcaatcaatt gaagctgaca 300  
 ctctgcatta atctatcttg ccatttctga aaaaaaanaa aaaaaagggt cggccgctcg 360  
 antctagagg gccgtctta acccgtgat cagcctcgac tgtgccttct anttgcacgc 420  
 catctgttct ttgcctctcc accgntgctt tcttgaccc tggaaagtgc cactccact 480  
 gtcttctct aataaatt 499

<210> 74  
 <211> 537  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(537)  
 <223> n = A,T,C or G

<400> 74  
 tttcataggg gaacacactg agagatact ttaagaattt ggaatcagcc gcaagagat 60

ttatcagctt:	aactcaguta	aatcattga	agtcataag	gtaaaagcta	gtctctaact	120
tccaggccca	cggctcaagf	gaatttgaat	actgcattta	cagtgtagag	taacacataa	180
cattgtatgc	atggaaacat	ggaggaaacg	taltacagtg	tectaccact	ctaatcaaga	240
aaagaattac	agactctgat	tclacagtga	tgattgaatt	claaaaatgg	taatcattag	300
ggcttttgar	ttataaact	ttgggtactt	atactaaatt	atggtagtta	taotgrectt	360
cagttttgott	gatataattg	ttgabatata	gattcttggc	ttatatattg	aatgggttct	420
actgaaaaan	gaatgatata	ttcttgaaga	cctcgatata	catttattta	caactctgat	480
tutacaxtgt	agaaatgaa	ggaaatgccc	caaatttgtat	ggtgatataa	gtcccgct	537

&lt;210&gt; 75

&lt;211&gt; 467

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(467)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 75

caaanacaat	tggttcaaaag	atgcnaatga	tacactactg	ctgcagctca	caaacacctc	60
tgcatactac	acgtacctcc	tcttgrtct	caagtatgtg	ggctctatct	gccatcacca	120
cctgtctgtc	gcttagaaga	acggctttct	gctgcaangg	agagaatca	taacagacgg	180
tggcacaagg	agggcatott	ttcttcacgt	gttattgtcc	ctagaagcgt	cttctgagga	240
tctagtggg	ctttctttct	gggtttgggc	catttcantl	ctcatgtgtg	tactattcta	300
tcattattgt	ataacgggtt	tcaaaccngt	gggcaacnag	agaaectcac	tctgtaataa	360
caatgagga	tggccacggt	gatctccagg	accnaatctc	tcuatgttnt	tccagagctc	420
ctccagccaa	ccccatagg	cgtctctatn	gtgtgagaca	tccttgn		467

&lt;210&gt; 76

&lt;211&gt; 400

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(400)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 76

aagctgacag	cattcgggcc	gagatgtctc	gtccngtggc	cttagctgtg	ctcgcgctac	60
tctctcttct	tggcctggag	gcataccagc	gtactccaaa	gattcagggt	tactcargtc	120
atccagcaga	gaatggaaag	tcaaatttcc	tgaattgcta	tgtgtctggg	tttcatccct	180
ccgacattga	agttgactta	ctgagaatg	gagagagat	tgaaaaagtg	gagcattcag	240
acttctcttt	cagcaaggac	tggctcttct	atctcttgta	ctauactgaa	ttcaccocaa	300
ctgaaaaaga	tgaatgatgc	tgcctgtgtg	acuatgtgac	tttgtcacag	ccccagatng	360
tttngtggga	tcanacatg	taagcagcan	catggggggt			400

&lt;210&gt; 77

&lt;211&gt; 248

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 77

ctggagtgc	ttgggttttc	aagcccttgc	agghagcaga	atgcacnttc	tgaggcaact	60
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```

ccagctgccc cggcggggga tgcgaggctc ggagcaccct tgcggggctg tgattgctgc      120
caggcaactgt tcatctcaga tttctgtcc ctttgcctcc ggcagcgct. tctgtgaaa      180
gttcatatct ggagcctgat gtcttaacga ataaaggctc catgctccac ccgaacaaan      240
aaaaaaaaa                                         248

```

<210> 78  
 <211> 201  
 <212> DNA  
 <213> Homo sapien

```

<400> 78
actagtcacag tgcggtgga ttccattgtg ttcgggcaca cacaatggct acctttaaca      60
tcacccagac ccgcctctgc cngtgcacca cgtgctgct. aacgacagta tcatgcttac      120
tctgctactc ggaaacatt tttatgtaac taatgtatgc tttctgttt. ataatgcct.      180
gatttaaaa aaaaaaaaaa a                                         201

```

<210> 79  
 <211> 552  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (552)  
 <223> n = A,T,C or G

```

<400> 79
tctttttgtt aggtttttga gacaaccctc gacctaaact gtgtcacaga cttctgaatg      60
tttaggcagt gctagtaatt tctctgtaat gattctgtta ttactttctt attctttatt      120
cctctttctt ctgaagatta atgaagttgc aaattgaggt ggataaatat aaaaaggtag      180
tgtgatagta taagtatctc agtgcagatg aaagtgtgtt. atatatactc attcaaaatt      240
atgcaagtta gtaattactc aggtttaact aaattacttt aatatgctgt tgaacctart      300
ctgttccttg gctagaaaaa atcataaaca ggaactttgtt agtttgggaa gccaaattga      360
taatattcta tgttttaaaa gttgggctat acataaanta tnaagaata tgggaatttta      420
tcccaggaa tatggggctc atttatquat antaccggg anagaagttt tgantnaaac      480
cngttttggg taatacgtta atatgtcttn aatnaacaa gcntgactta tttccaaaaa      540
aaaaaaaaaa aa                                         552

```

<210> 80  
 <211> 476  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (476)  
 <223> n = A,T,C or G

```

<400> 80
acaggggattt gagatgctaa ggcccagag atcgtttgat ccaacctct. tttttcaga      60
ggggaaaaatg gggcctagaa gttacagagc atctagctgg tgggttggca cccctggct      120
cacacagant ccgagtagc tgggactaca ggcacacagt cactgaagca ggccctgttt      180
gcaattcaag ttgccacctc caacttaaac attcttcata tctgatgtcc ttagtcaata      240
aggttaaac. ttccccacca gaaaggcaa cttaaatana atcttagagc accttcatac      300
tcttataagt cctcttcacg cctcactttg agtctcctt. gggggttgat aggaantctc      360

```

tcttgggttll ctcataaana tctctatcna tctcatgttt aatttgggtac gcntaaaaat 420  
 gctgaanaaa ttaaaatgtt clggttttnc tttaaaaaaa aaaaaaanaa aaaaaa 476

<210> 81

<211> 232

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)... (232)

<223> n = A,T,C or G

<400> 81

tttttttttg tatgccttcn ctgtggngtt attgttgcgc ccacccctgga ggagcccagt 60  
 ttctctgtta tttttttttt ctgggggata ttcttggtc tgcacctera ttcccagcct 120  
 ctcatcccca tcttgcaatt ttgctagggt tggaggcgct ttcttggtag cccctcagag 180  
 actcagtcag cgggaataag tccctaggggt ggggggtgtg gcaagccggc ct 232

<210> 82

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)... (383)

<223> n = A,T,C or G

<400> 82

agggcgggagc agaaagctaa gccaaagccc auyaaagagt gcagtgccag caetgggtgc 60  
 agtaccagta ccaataacat gccagtgcca gtgccagcac cagtggtygc ttcaagtgcg 120  
 gtgccagcct gaccgcaact ctacacattg ggtcttcgc tggccttggg ggagctggtg 180  
 ccagcaaccag tggcagctct ggtgctgtg gtttctccta caagtggat tttagatatt 240  
 gtttaattctg ccagtccttc tttcaagcc aggytgcac ctcaaaaacc tactcaaac 300  
 aguaactctng gcagcacta tcaatcaatt gaagttgaca ctctgcatta aatctatttg 360  
 ccatttcnaa aaaaaaanaa aaa 383

<210> 83

<211> 494

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)... (494)

<223> n = A,T,C or G

<400> 83

accgaatttg gaccgctggc ttataagoga tcatgtctc cagtattacc tcaaggagaa 60  
 gggagatcga gtctatacgc tgaagaaatt tgaaccgatg ggacaacaga cctgtctcagc 120  
 ccattcctgt cggttctccc cagatgacaa atactctga uaccgaatca ccatcaagaa 180  
 acgtctcaag gctgctaatga cccagcaacc ggcgcctgtc ctctgagggg ccttaaatcg 240  
 atgtcttttc tgcacactgt taacctctgg agactccgta accaactct tgggactgtg 300  
 agccctgatg cctttttgcc agccatactc ttgggentec agtetctcgl ggcgattgat 360



```

talgcttctg  ttaggcacac atggtggcat caccacatnaa gggaacacat ttganttttt 420
tttncatat  tttaaattac ncccaaaata nttcagaata aatgaattga aaaactctta 480
aaaaaagaaa  aaaa 494

```

```

<210> 84
<211> 380
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(380)
<223> n = A,T,C or G

```

```

<400> 84
gctggtagcc tatggcgtgg ccacggaggg gctcctgagg cacgggacag tgacttccca 60
agtatacctgc gccgcgtctt ctaccgtccc tccctgcaga tcttggggca gattccccag 120
gaggacatgg acgtggccct catggagcac agcaactgct cgtcggagcc cggctctctg 180
gcacacccctc ctggggccca ggggggcacc tgcgtctccc agtatgccaa ctggctgggtg 240
gtgctgctcc tctcatctt cctgctcgtg gccaacatcc tgcctgctcc ttgctcctg 300
ccatgttcag ttaacacatlc ggcacagtac agggcaacag cnatctctac tgggaaggcc 360
agcgttcccy cctcatccgg 380

```

```

<210> 85
<211> 481
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(481)
<223> n = A,T,C or G

```

```

<400> 85
gagbttagctc ctccacaacc ttgatgaggt cgtctgcagt ggctctctgc ttcataccgc 60
tncatcgtc atactgtagg tttgcaccca cctcctgcac cttggggctg ctaatatcca 120
ggaaactctc aatcaagtea cctcnaatna aacctgtggc tggttctgtc ttcgcctcgg 180
tgtgaaggga tctccagag gggtgctoga tcttccccac acttttgatg actttattga 240
gtcgattctg catgtccagc aggtgggttg accagctctc cgacagtga gtcaccagcc 300
ctatcatgc nttgaacgtg ccgaayaaca ccgagccttg tgtggggggt gngtctccac 360
ccagattctg cattaccaga naccgtggc aaaganatt gacacctcgc ccaggngaa 420
aaagaacacc tcttggaggt gctnccgct cctcgtcctt tgggtggangc gcntnccctt 480
t
481

```

```

<210> 86
<211> 472
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(472)
<223> n = A,T,C or G

```

```

<400> 86

```

aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgagc	ttgtctgctg	agaattcatt	60
acttggaaa	gaaacttnaa	gcctgggacg	tggtattaaa	attcacaala	tgraacactl	120
taaacagtgt	gtcaalctgc	tcccttactt	tgtcatcacc	agtctgggaa	taaggggtatg	180
cctattccg	acctgttaaa	agggcgclaa	gcatttttga	ttcaacatcl	ttttttttga	240
cacaagtcg	aaaaaagcaa	aagtaaacag	ttnttaattl	gttagccaat	tcactttctt	300
cctgggacag	agccatttga	tttaaaaaag	aaattgcata	atattgagcl	ttgggagctg	360
atatntgagc	gggaagatcg	cctttctact	tcaccagaca	caactccttt	catattggga	420
tgttaacaa	agtcattgtc	cttaccagatg	ggtatgtttt	gtggcaattc	tg	472

<210> 87  
 <211> 413  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(413)  
 <223> n = A,T,C or G

agaaaccagt	atctctnaaa	ccaaacctctc	atacccttgc	gacctaatct	tgtgtgagtg	60
tgtgtgtgag	ggcatattat	atagacaggc	acatcttttt	tactttttga	aaagcttatg	120
cctcttttgg	atctatatct	gtgaaaattt	taattgatctg	ccataatgct	ttggggacct	180
ttgtcttctg	tgtaaatggg	actagagaaa	acacctctct	tatgagtcaa	tctagttingt	240
tttattcgac	atgaaggaaa	tttccagatn	acaaactctna	caaaactctcc	cctgactagg	300
ggggacaaaag	aaaagcnaaa	ctgaacatna	gaaacaattt	cctggttgaga	aatttncataa	360
acggaaattg	ggtngtatat	tgaananang	catcattnaa	acgttttttt	ttt	413

<210> 88  
 <211> 448  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(448)  
 <223> n = A,T,C or G

cgcagcgggt	cctctctatc	tagctccagc	ctctcgctcg	ccccactccc	cgggtccgcg	60
gtcctagccn	accatggccg	ggcccttgcg	cgccccgctg	ctctgctgg	ccatcctggc	120
cgtggccctg	gccgtggccc	ccgcggcccg	ctccagtcct	ggcaagccgc	cgcgcctgg	180
gggaggccca	tgyaccrcgc	gtggaagaag	aaggtgtgag	gcgtgcactg	gaatttgcgc	240
tggcnanta	caacaaaccc	gcacnaactt	ttaccnagcn	cgcgtctgcg	gttgtccgcg	300
ccccancaa	ttgttactng	gggtaantaa	ttcttgyaag	ttgaacctgg	gcnaaacnng	360
tttaccagaa	ccnagccaat	tngaacaatt	ccccctccat	aacagccctt	tttaaaaagg	420
gaanvantee	tgntcttttc	caaatttt				448

<210> 89  
 <211> 463  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature

&lt;222&gt; (1)...(463)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 89

gaattttgtg cactggccac tgtgatggaa ccattggggc aggatgcttt gaggtrlatca	60
gtagtgattc tgcuaaagtt ggtgttgraa cabgagtatg taaaatgtca aaaaatttagc	120
agaggcttag gtctgcatac caggagacag ttgtctngtg tattttttag ccttgaagtt	180
ctcagtpaca agtttnttct gatgcgaagt tctnattcca gtgttttagt cctttgcate	240
tttnatgtn agacttgcct ctatnaaatt gcttttgnt tctgcaggta ctatctgttg	300
tttaacaaaa tagaannact tctctgcttn gaanatttga atatcttaca tctnaaaatn	360
aattctctcc ccatannaaa acccangccc ttggganaat ttgaaaaang gntccttcm	420
aattcnana anttcagtn tcatacaaca naaunggan ccc	463

&lt;210&gt; 90

&lt;211&gt; 400

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(400)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 90

agggattgaa ggtctntnt actgtcggac tgttcacca ccaactctac aagtrgtgt	60
cttccactca ctgtctgtac gcatnttaac ccagactgta tcttcataaa tagaacaatt	120
tcttcaccag tcaatctctc taggaccttt ttggattcag ttaghataag ctcttccact	180
tcctttgtta agacttctc tggtaaaagtc ttaagtttfg tggaaaggaa tttcaattgct	240
cgttctctaa caatgtctc tccttgaagt atttggctga acacccccc tnaagtcct	300
ttgtgcaccc attttaata cacttaatag ggcattggtn cactaggtta aattctgcaa	360
gagtcacttg tctgcaaaaag ttgcgttagt atatctgcca	400

&lt;210&gt; 91

&lt;211&gt; 480

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(480)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 91

gagctggat ccaataatct ttgtctgagg gcagcacaca tatncagtgc catggnaact	60
ggtctacccc acatgggagc agcatgcctg agtatataaa ggtcattccc tgagtcagac	120
atgctctttt gactaccgtg tgcagtgct ggtgatcttc acacacctcc nccgctctt	180
tgtggaaaaa ctggcacttg nctggacta gcaagaratc acttacaatt tcaccacaga	240
garacttgaa aggtgttaaa aagcgactct tgcattgctt ttgtccctc cggcaccagt	300
tytcaatact aaccgcctgg ttgacctcca tccatttctg gatctgtagc tctggataga	360
tctactgaca gtaetgaaga acttcttctt ttgtttcaaa agcgaactct ggtgctgtt	420
ngatcagggt cccatttccc agtcgaagt ttcacatggc atatnttact tcccacaaa	480

&lt;210&gt; 92

&lt;211&gt; 477

&lt;212&gt; DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(477)

<223> n = A,T,C or G

<400> 92

atacagccca	natcccacca	ogaagatgag	cttggtgact	gagaacctga	tcgggtcact	60
ggccccgtg	tggccccagc	gactctccac	ctgctggaag	cggttgatgc	tgcaactectt	120
ccacgcagg	cagcagcggg	gcgggtraat	gaactccact	cgtgggttgg	ggttgacggg	180
taantgcagg	aagaggctga	ccacctcgcg	gtccaccagg	atgcccgaat	gtgcgggacc	240
tgcagcgaaa	ctctcgatg	gtcatgagcg	ggaagcgaa	gangccuagg	gccttgccca	300
gaaccttcgg	ctgtttctct	ggcgccacct	gcagctgctg	ccgctnacac	tgggctcgg	360
accagcgggc	aaacggcggt	gacagcgccg	acctccagg	tggccantgt	gtngcgtcc	420
aggaacggcn	ccagcgtgtc	caggtcaatg	tgggtgaanc	ctccgcgggt	aatggcg	477

<210> 93

<211> 377

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(377)

<223> n = A,T,C or G

<400> 93

gaacggctgg	accttgccct	gcattgcgct	gttggcagga	ataccttggc	aagcagctcc	60
agtccgaqda	gccccagacc	gctgcggccr	gaagctaaac	ctgcctctgg	ccttcacctc	120
ugcctcaatg	cagaaccant	agtgggagca	ctgtgtttag	agctaugagt	gaacactgtt	180
tgatttact	tgggaatttc	ctctgtttata	tagcttttcc	caatgctaast	ttccaaacaa	240
caacacacaa	ataacatggt	tgcctgttnc	gttgtataaa	agtcngtgat	tctgtatnta	300
aagaaaatal	tactgttaca	tatactgott	gcaanttctg	tatttattgg	tcctctggaa	360
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<210> 94

<211> 495

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(495)

<223> n = A,T,C or G

<400> 94

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ccaaggaaag	accaccttct	ggggacatgg	gctggagggc	aggacctaga	ggvaccaagg	180
gaaygcccca	ttccggggct	gttccccgag	gaggaaggga	aggggtctctg	tgtgcovccc	240
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tguagctca	ccaaagtccc	ctctcagtc	cttccctaca	ccctgaacgg	ncactggccc	360
acacccccc	agancancca	cccgccatgg	ggaatglnct	caaggatcga	ungggcaacg	420
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495

<210> 95  
<211> 472  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
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<223> n = A,T,C or G

<400> 95  
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tagctgtttt gacttgatc gcaccactgc accacaactc aatatgaaaa ctatttnact 180  
tatttatat ctgtgaaaa gtatacaatg aaatttttgc tcatactgta tttatcaaqt 240  
atgatgaaaa gcaatagata tatattcttt tattatgttn aattatgatt gccattatta 300  
atcggcgaag tgtggagtgt atgtttcttt cacagtaata tatgcctttt gtaacttcac 360  
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<210> 96  
<211> 476  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> {1}...{476}  
<223> n = A,T,C or G

<400> 96  
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ttttaactca tgatttttcc acacacaaac cagaacttat tatatagcct cttaagtcttt 180  
attcttcaca gtagatgatg aaagagtcct ccagtycttt gngcnaatg ttctagnctt 240  
agctggatac ataungtggg agttctctaa actcatacct cagtgaggact naaccanaat 300  
tgtgttagtc tcaattctta ccaactgag ggagctctcc aatcactat attcttatct 360  
gcaggtatc ctccagaaaa acngacaggg caggtctgca tgaaaaagtn acatctgcgt 420  
tcacaaagtct atttctctca nangtctgtn aaggaaacat ttaattctct agcttt 476

<210> 97  
<211> 479  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> {1}...{479}  
<223> n = A,T,C or G

<400> 97  
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caggctacta	gaattctgtt	cttggatctn	tgagagcatg	aaatttttaa	naatcacatt	300
gtgattatna	aatcaatcuc	aaatttcact	lclacutgct	atragcagcl	agaaaaacat	360
ntnmttttta	natcaaatga	tcttctgttt	ggaantgttn	aaatgaaate	tgaatgtggg	420
ttenatctta	ttttttccen	gacnaactant	tnctttttta	gggncctctc	tyanccatc	479

&lt;210&gt; 98

&lt;211&gt; 461

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 98

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&lt;210&gt; 99

&lt;211&gt; 171

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 99

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cgggtgagaa	agccttctct	agcgatctga	gaggcgtagc	ttgggggtac	c	171

&lt;210&gt; 100

&lt;211&gt; 269

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 100

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aaggttgagc	tgaacgcgca	gaggtcgtgt	cacgtcccac	gacrttgacg	ccgtcgggga	180
cagccgggac	agagcccggt	gaagcgggag	gcctcgggga	gccccctcgg	aagggcggcc	240
cgagagatac	gcaggtgcag	gtggccgc				269

&lt;210&gt; 101

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 101

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<210> 102

<211> 470

<212> DNA

<213> Homo sapien

<400> 102

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 atatacttct ttcagcaaac ttgttacata aattaaaaaa atatatcgg ctgggtgttt 240  
 caaagtacaa ttatcttaac actgcaaac llttaaggaa ctaaaataaa aaaaaaact 300  
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<210> 103

<211> 581

<212> DNA

<213> Homo sapien

<400> 103

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 taaatggaaa ctgccttaga tacataattc ttgggaatta gcttaaaatc tgcctaaagt 180  
 gaaatctctt tctagctctt ttgactgtta atttttgact ctgttaaaac atccaaattc 240  
 atttttcttg tctttaaaat tatctaactt ttccattttt tccctattcc aagtcatttt 300  
 gcttctctag cctcatttcc tagctcttat ctactattag taagtggttt ctttctaaa 360  
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 ccattttagt cartaaacga tctcaaatgt cragaatgca aaagggtttgt gaacatttat 540  
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<210> 104

<211> 578

<212> DNA

<213> Homo sapien

<400> 104

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 aatccacatt tarcacagca ataatcaaac tgaagtacca gtaaatatc caaataatt 480  
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<210> 105

<211> 538

<212> DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 105

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gtcttgaaac	ccaatottaa	tttgaggaaa	aturoccaaa	atacattlaa	taaatatttt	180
aagatratag	agcttgtaag	tgaaaagata	aaatttgacc	tcagaaactc	tgagcattaa	240
aaatccacta	ttagcaata	aattactatg	gaattctctg	tttaattttg	tgatgaatct	300
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&lt;210&gt; 106

&lt;211&gt; 473

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 106

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aatgcaccaa	aatctaraat	caacagcaag	atgaagctag	gctgggcttc	cggtgaaact	360
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ccgcttcttc	aaaggcgctg	ccacatttgt	ggctctttgc	acttgcttca	aan	473

&lt;210&gt; 107

&lt;211&gt; 1621

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 107

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a 1621

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&lt;210&gt; 108

&lt;211&gt; 382

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 108

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Gly Pro Phe Cys Ala Met Val Leu Ala Asp Phe Gly Ala Arg Val Val
20 25 30
Arg Val Asp Arg Pro Gly Ser Arg Tyr Asp Val Ser Arg Leu Gly Arg
35 40 45
Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Gly Ala Ala
50 55 60
Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro Phe
65 70 75 80
Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
85 90 95
Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
100 105 110
Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
115 120 125
Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
130 135 140
Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Gly Leu Met Cys
145 150 155 160
Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
165 170 175
Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
180 185 190
Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro Arg
195 200 205
Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
210 215 220
Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln Phe
225 230 235 240
Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
245 250 255
Asn Gln Met Ser Met Asp Asp Trp Pro Glu Met Lys Lys Lys Phe Ala
260 265 270
Asp Val Phe Ala Lys Lys Thr Lys Ala Glu Trp Cys Gln Ile Phe Asp
275 280 285
Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
290 295 300
His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu Glu
305 310 315 320
Gln Asp Val Ser Pro Arg Pro Ala Pro Leu Leu Leu Asn Thr Pro Ala

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325  
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 340  
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<210> 109  
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 <212> DNA  
 <213> Homo sapien

<400> 109

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 <212> DNA  
 <213> Homo sapien

<400> 110

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&lt;210&gt; 111.

&lt;211&gt; 1289

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 111

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tgttccnuty	ttcaaaaaaa	aaaaaaaa				1289

&lt;210&gt; 112

&lt;211&gt; 115

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 112

Met	Val	Phe	Thr	Val	Arg	Leu	Leu	His	Ile	Phe	Thr	Val	Asn	Lys	Gln
1				5					10					15	
Leu	Gly	Pro	Lys	Ile	Val	Ile	Val	Ser	Lys	Met	Met	Lys	Asp	Val	Phe
			20					25					30		
Phe	Phe	Leu	Phe	Phe	Leu	Gly	Val	Trp	Leu	Val	Ala	Tyr	Gly	Val	Ala
		35					40					45			
Thr	Glu	Gly	Leu	Leu	Arg	Pro	Arg	Asp	Ser	Asp	Phe	Pro	Ser	Ile	Leu
		50				55				60					
Arg	Arg	Val	Phe	Tyr	Arg	Pro	Tyr	Leu	Gln	Ile	Phe	Gly	Gln	Ile	Pro
		65			70				75					80	
Gln	Glu	Asp	Met	Asp	Val	Ala	Leu	Met	Glu	His	Ser	Asn	Cys	Ser	Ser
			85					90						95	
Glu	Pro	Gly	Phe	Trp	Ala	His	Pro	Pro	Gly	Ala	Gln	Ala	Gly	Thr	Cys
			100					105					110		
Val	Ser	Gln	Tyr	Ala	Asn	Trp	Leu	Val	Val	Leu	Leu	Leu	Val	Ile	Phe
		115					120					125			
Leu	Leu	Val	Ala	Asn	Ile	Leu	Leu	Val	Asn	Leu	Leu	Ile	Ala	Met	Phe
		130				135					140				
Ser	Tyr	Thr	Phe	Gly	Lys	Val	Gln	Gly	Asn	Ser	Asp	Leu	Tyr	Trp	Lys
		145			150				155					160	
Ala	Gln	Arg	Tyr	Arg	Leu	Ile	Arg	Glu	Phe	His	Ser	Arg	Pro	Ala	Leu
			165					170					175		
Ala	Pro	Pro	Phe	Ile	Val	Ile	Ser	His	Leu	Arg	Leu	Leu	Leu	Arg	Gln
		180					185					190			
Leu	Cys	Arg	Arg	Pro	Arg	Ser	Pro	Gln	Pro	Ser	Ser	Pro	Ala	Leu	Gln

195                      200                      205  
 His Phe Arg Val Tyr Leu Ser Lys Glu Ala Glu Arg Lys Leu Leu Thr  
 210                      215                      220  
 Trp Glu Ser Val His Lys Glu Asn Phe Leu Leu Ala Arg Ala Arg Asp  
 225                      230                      235                      240  
 Lys Arg Glu Ser Asp Ser Glu Arg Leu Lys Arg Thr Ser Gln Lys Val  
 245                      250                      255  
 Asp Leu Ala Leu Lys Gln Leu Gly His Ile Arg Glu Tyr Glu Gln Arg  
 260                      265                      270  
 Leu Lys Val Leu Glu Arg Glu Val Gln Gln Cys Ser Arg Val Leu Gly  
 275                      280                      285  
 Trp Val Ala Glu Ala Leu Ser Arg Ser Ala Leu Leu Pro Pro Gly Gly  
 290                      295                      300  
 Pro Pro Pro Pro Asp Leu Pro Gly Ser Lys Asp  
 305                      310                      315

<210> 113  
 <211> 553  
 <212> PRT  
 <213> Homo sapien

<400> 113  
 Met Val Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala  
 1                      5                      10                      15  
 Gln Leu Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu  
 20                      25                      30  
 Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val  
 35                      40                      45  
 Glu Glu Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly  
 50                      55                      60  
 Leu Val Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly  
 65                      70                      75                      80  
 Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile  
 85                      90                      95  
 Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu  
 100                      105                      110  
 Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly  
 115                      120                      125  
 Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu  
 130                      135                      140  
 Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala  
 145                      150                      155                      160  
 Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr  
 165                      170                      175  
 Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu  
 180                      185                      190  
 Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu  
 195                      200                      205  
 Thr Cys Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly  
 210                      215                      220  
 Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His  
 225                      230                      235                      240  
 Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu  
 245                      250                      255  
 Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg

260 265 270  
 Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe  
 275 280 285  
 Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val  
 290 295 300  
 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly  
 305 310 315 320  
 Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu  
 325 330 335  
 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg  
 340 345 350  
 Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala  
 355 360 365  
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu  
 370 375 380  
 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala  
 385 390 395 400  
 Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly  
 405 410 415  
 Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu  
 420 425 430  
 Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala  
 435 440 445  
 Gly Gly Ser Gly Leu Leu Pro Pro Pro Ala Leu Cys Gly Ala Ser  
 450 455 460  
 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala  
 465 470 475 480  
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp  
 485 490 495  
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser  
 500 505 510  
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala  
 515 520 525  
 Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp  
 530 535 540  
 Lys Ser Asp Leu Ala Lys Tyr Ser Ala  
 545 550

&lt;210&gt; 114

&lt;211&gt; 241

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 114

Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu  
 1 5 10 15  
 Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val  
 20 25 30  
 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser  
 35 40 45  
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly  
 50 55 60  
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr  
 65 70 75 80  
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile

	85		90		95										
Phe	Ile	Ala	Glu	Val	Ala	Ala	Ala	Val	Val	Ala	Leu	Val	Tyr	Thr	Thr
	100							105					110		
Met	Ala	Glu	His	Phe	Leu	Thr	Leu	Leu	Val	Val	Pro	Ala	Ile	Lys	Lys
	115						120					125			
Asp	Tyr	Gly	Ser	Glu	Glu	Asp	Phe	Thr	Gln	Val	Trp	Asn	Thr	Thr	Met
	130					135					140				
Lys	Gly	Leu	Lys	Cys	Cys	Gly	Phe	Thr	Asn	Tyr	Thr	Asp	Phe	Glu	Asp
	145			150						155				160	
Ser	Pro	Tyr	Phe	Lys	Glu	Asn	Ser	Ala	Phe	Pro	Pro	Phe	Cys	Cys	Asn
			165					170						175	
Asp	Asn	Val	Thr	Asn	Thr	Ala	Asn	Glu	Thr	Cys	Thr	Lys	Gln	Lys	Ala
	180							185					190		
His	Asp	Gln	Lys	Val	Glu	Gly	Cys	Phe	Asn	Gln	Leu	Leu	Tyr	Asp	Ile
	195					200					205				
Arg	Thr	Asn	Ala	Val	Thr	Val	Gly	Gly	Val	Ala	Ala	Gly	Ile	Gly	Gly
	210					215				220					
Leu	Glu	Leu	Ala	Ala	Met	Ile	Val	Ser	Met	Tyr	Leu	Tyr	Cys	Asn	Leu
	225			230					235				240		
Gln															

<210> 115  
 <211> 366  
 <212> DNA  
 <213> Homo sapien

<400> 115  
 gctctttctc tccctctctc tgaatttaac tctttcaact tgcattttgc aaggattaca 60  
 catttcactg tgaatgtatc tgtgttgcaa aaaaaaahaa gtgtctttgt ttssaatlac 120  
 ttggtttggt aatccatctt gctttttccc catttggact agtcattaac ccattctctga 180  
 actggtagaa aaacatctga agagctagtc taccagcacc tgacagggtg attggatagt 240  
 tctcagaacc atttcarcca gacagcctgt ttctatcttg tttaactaat tagtttgggt 300  
 tctctacatg cctaaccaaa cctgctccaa tctgtccatc aaagctctgt gacttgaagt 360  
 ttagtc 366

<210> 116  
 <211> 282  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (282)  
 <223> n = A,T,C or G

<400> 116  
 acaagatga accatttctt atattataga aaaaataaaa tctaccctga ttctaatatt 60  
 gagaatgag atnaaacaca atttatata gtctacttag agaagatcaa gtgacutcaa 120  
 agattttact attttcatat tttaagacac atgatttctc ctatttttagt aacctgggtc 180  
 atcgttttaa caaaggataa tgtgaacagc agagaggatt tgttggcaga aaatctatgt 240  
 tcaatctnga acLatctana tcaagacat tttatttctt tt 282

<210> 117  
 <211> 305

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)... (305)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 117

acacatgtcg	cttcaactgcc	tctcttagatg	cttctcggta	acatonagga	acagggacca	60
tatttatcc	ccctccctgaa	acaattgcaa	aataanacaa	aatatatgaa	acaattgcaa	120
ataaaggcaa	atatatatgaa	acacacaggtc	tcgagatatt	ggaaatcagt	caatgaagga	180
tactgatccc	tgatcaatgt	cctaattgcag	gatytyggaa	acagatgagg	tcacctctgt	240
gaatgcacaa	gcttactgcc	tgtagagagt	ttctangctg	cagttcagac	aggagagaat	300
tggt						305

&lt;210&gt; 118

&lt;211&gt; 71

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)... (71)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 118

accaaggtgt	atgaatctct	gaagtgaggga	tctctgattc	cgcacaaac	tgagtggaaa	60
aantcctggg	t					71

&lt;210&gt; 119

&lt;211&gt; 212

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)... (212)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 119

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gaaaatgggg	tgaattggc	caacttctc	ttaacttatg	tggcaantt	tgcacacac	120
agtaagctgg	cccttctaat	aaaagaaaat	tgaaggttt	ctcactaenc	ggattaant	180
aatggantcc	aganactccc	aggcctcagc	gt			212

&lt;210&gt; 120

&lt;211&gt; 90

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)... (90)

&lt;223&gt; n = A,T,C or G



<400> 120  
 ectcgtttgca natcagggggc cccccagagt caccgttgcg ggagtccttc tggctttgcc 60  
 ctccgcgggc gcagaaatg ctgggggtgt 90

<210> 121  
 <211> 218  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(218)  
 <223> n = A,T,C or G

<400> 121  
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 gaataagatt tgcataaaga ttgggggcta aaacatgggt attgggagac atttctgaag 120  
 atatncanqt aaattangga atgaattcat ggttcttttg ggaattcctt taagatngcc 180  
 agcatanact tcatgtgggg atancagcta ccttcta 218

<210> 122  
 <211> 171  
 <212> DNA  
 <213> Homo sapien

<400> 122  
 taggggtgta tycactgta aggacaaaaa ttgagactca actggottaa caataaagg 60  
 catttggttag ctcatgggac aggaagtcgg atgggtgggc atcttcagla ctgcatgagt 120  
 caccaccccg gcgggggtcat ctgtgccaca ggtccctgtt gacagtgcgg t 171

<210> 123  
 <211> 76  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(76)  
 <223> n = A,T,C or G

<400> 123  
 tctagcgtga agacnacaga atggtgtgtg ctgtgctatc caggaacaca tttattatca 60  
 ttatcaanta ttgtgt 76

<210> 124  
 <211> 131  
 <212> DNA  
 <213> Homo sapien

<400> 124  
 acccttcccc aaggccaatg tctgtgtgtc taactggcgg gctgcaggac agctgcaatt 60  
 caatgtgtgt ggtcatatgg aggggaggag actctaaaat agccaatttt attctotttg 120  
 ttaagatttg t 131

<210> 125  
 <211> 432  
 <212> DNA  
 <213> Homo sapien

<400> 125  
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 cttagaaaag aggtgatago tttcagagg acttgtgact ttgctcaga tgcagaaga 120  
 ctacagtcctg catctggcag aatguagat gaatttggat taatgagga tgcagaagat 180  
 ttgctcacc aaacaaagt gaaacaactg agagaaaatt ttcaggaaa aagacagtgg 240  
 ctcttgaggt atcagtcact tttagaagt ttcttagtt actgcatact tcatggatcc 300  
 catggtaggg gtcttgcatc tgaagaatg gaattgatt tgcctttgca agaattcag 360  
 caggaaacat cagaaccact atttctatga cctctgtcag agcaaacctc agtgccttc 420  
 ctctttgatt gt 432

<210> 126  
 <211> 112  
 <212> DNA  
 <213> Homo sapien

<400> 126  
 acacaacttg aatagtaaaa tgaactga gctgaattt ctaattcact ttctaaccat 60  
 agtaagaatg atatttcacc ccagggatca ccaatattt ataaaattt gt 112

<210> 127  
 <211> 54  
 <212> DNA  
 <213> Homo sapien

<400> 127  
 accacgaac cacaacaag atggagcat caatccact gccagaca gcag 54

<210> 128  
 <211> 323  
 <212> DNA  
 <213> Homo sapien

<400> 128  
 agctcattag taattgtttt gttgtttcat tttttctaa tgcctccct ctaccagctc 60  
 acctgagaca acagatgaa aatggaagga cagccagatt tctctttgc tctctgctca 120  
 ttctctctga agtctaggtt accattttg gggaccatt ataggcaata aacacagttc 180  
 ccacagcatt tggacagttt ctgtgttgt tttagaatg ttttctttt tcttagcctt 240  
 ttctgcaaa aggcctact agtcccttgc ttgtcagtg gactgggctc ccagggcct 300  
 aggcctgctt cttttcctg tcc 323

<210> 129  
 <211> 192  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...{192}  
 <223> n = A,T,C or G

&lt;400&gt; 129

acatacatgtc gtgtatattt ttaaataatca utttgtatc actctgactt tttagcatac	60
tgaataacata cttaacataat ttntgtgaac catgatcaga tacaacccaa atcattcacc	120
tggcacatcc atctgtgata naaagatagg tgaatttcac ttccttcaag ttggccaatg	180
gataaacaac gt	192

&lt;210&gt; 130

&lt;211&gt; 352

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(362)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 130

cccttttttla tgaatgagt agactgtatg ttctgaanatt tancacacac ctctctgaca	60
tataatgacg caacaaaaag gtgtgtttta gtctatggt tcagtttatg cccctgacaa	120
gtttccattg tgttttgccg atcttctggc taatcgttgt atcttccatg ttattagtaa	180
ttctgtatcc catcttggta aggtctggt gatgtaacct gctangaggc taactttata	240
cttattttaa agctcttatt ttgtggtcat taaaatggca atttatgtgc agcactttat	300
tgcagcggga agcactgtgt ggttgaattgt aaagctcttt gctaacttta aaaagtaattg	360
gg	362

&lt;210&gt; 131

&lt;211&gt; 332

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(332)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 131

ctttttgaaa gatcgtgtcc actcctgtgg acatcttgtt ttaatggagt ttcccatgca	60
gtangacttg tatggttgca gctgtccaga taaaaacatt tgaagagctc caaatgaga	120
gtttccccag gttcggcctg ctgtcccaag tctcagcagc agcctctttt agyaggcacc	180
ttctgaaacta gattaaggca gcttgtaaat ctgatgtgat ttggtttatt atccaaactaa	240
cttccatctg ttctcactgg agaaagccca gactcccan gacnggtacg gattgtgggc	300
atanaaggat tgggtgaagc tggcgtttgt gt	332

&lt;210&gt; 132

&lt;211&gt; 322

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(322)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 132

acttttgcca ttttgtatat ataaacaatc ttgggaactt ctctgaaaa ctgggtgtcc	60
--	----

agtggctaag	agaactcagat	ttcangcaat	tctgaaggga	aaaccagcat	gacacagaat.	120
ctcaaatctc	caaacagggg	ctctglggga	aaactgaggg	aggacutttg	tatctcgggt	180
tttagcaagt	taaaatgaen	atpacaggaa	aggttatctt	atcaacaaag	agaagagttg	240
ggatgcttct	aaaaaaaact	ttggtagaga	aaataggaa	gctnaatct	agggaagct	300
gtacacatct	acaattggtc	ca				322

&lt;210&gt; 133

&lt;211&gt; 278

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(278)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 133

acaagccttc	acaggtttta	ctaaattggg	attaatcttt	ctgtanttat	ctgcataatt	60
cttgtttttc	tttccatctg	gctcctgggt	tgacaatttg	tggaacaaac	tctattgcta	120
ctatttaaaa	aaatcacaa	atctttccct	ctaaagctatg	ctnaattcaa	actattcctg	180
ctatttctgt	tttgtcaag	aaattatatt	tttcaaaata	tgtntatttg	tttgatgggt	240
cccacgaac	actaataaa	accacagaga	ccagcctg			278

&lt;210&gt; 134

&lt;211&gt; 121

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(121)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 134

gtttanaaaa	cttgcttagc	tcctagagg	aaagaatgtt	aaactttgta	ttttaaaaa	60
tgattctctg	aggttaaaact	tggttttcaa	atgttatctt	laattgtatt	ttgcltttgg	120
t						121

&lt;210&gt; 135

&lt;211&gt; 350

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(350)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 135

acttanaacc	atgcctagca	catcagaatc	cttcaagaa	catcagata	atnclatcc	60
atancaagtg	gtgactgggt	aaagctgcga	caaaggtcag	ctggcacatt	acttgtgtgc	120
aaacttgata	cttttgctct	aagttagaac	tagtatcacg	tnoctaggan	tgglactcca	180
gggtgcccc	caactcctgc	agccgtctct	ctgtgccagn	ccrtgnaagg	aactttcgt	240
ccacctcaat	caagccctgg	gccatgctac	ctgcaattgg	ctgaacaaac	gttlgctgag	300
ttcccaagga	tgcbaagcct	ggtgctcaac	tccctggggcg	tcaactcagt		350

&lt;210&gt; 136

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(399)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 136

tgtacggtga	agacgacaga	agttgcatgg	cagggacagg	gcagggccga	ggccaggggtt	60
gctgtgattg	tatccgaata	ntcctcgtga	gaaaagatga	tgagatgacg	tgagcagcct	120
gcagacttgt	gtctgccttc	aanaagccag	acaggaaggc	cctgcctgcc	ttggutctga	180
cctggcggcc	agccagccag	ccacaggtgg	gcttcttctt	tttgtggtag	caacnccag	240
aaaactgcag	agggccagg	tcaggatgna	gtgggtangl	gaccataaaa	caccaggtgc	300
tccaggaac	ccgggcagag	gccatcccca	actacagcca	gcctgcccac	tggegtgatg	360
ggtgcagang	gatgaagcag	ccagntgctc	tcctgtgggt			399

&lt;210&gt; 137

&lt;211&gt; 165

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(165)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 137

actgggtgtg	tnggaggtga	tgctgggtgt	anaagttgan	gtgacttcan	gatgggtgtg	60
ggaggaagt	tgtgaacgta	gggatgtaga	ngttttggcc	gtgctaaatg	agcttoggga	120
ttggtgtgtc	ccactggttg	tcactgtcat	tggtygggtt	cctgt		165

&lt;210&gt; 138

&lt;211&gt; 338

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(338)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 138

actcactgga	atgccacatt	cacaacagaa	tcagaggtct	gtgaaaacat	taatggctcc	60
ttaacttctc	cagtaagaat	cayggacttg	aatggaaac	gttaacagcc	acatgccraa	120
tgctgggcag	tctccatgc	cttccacagt	gaaagggctt	gagaaanate	acatccaatg	180
tcatgtgttt	ccagccacac	caaaaggtgc	ttgggttggg	gggctggggg	catananggt	240
cagcctcag	gaagcctcaa	gttccattca	gctttgccac	tgtacattcc	ccatntttaa	300
aaaaactgat	gccttttttt	tttttttttg	taaaattc			338

&lt;210&gt; 139

&lt;211&gt; 382

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 133

gggaatcttg	gtttttggca	tctggtttgc	ctatagcaga	ggcactttg	acagaacaaa	60
gaagggaact	tcgagtaaga	aggagattta	cagcagccl	agtgcacgaa	gtgaaggaga	120
attcaccag	acctcgtaac	tctgggtgfg	aggctggteg	gtcaccgcgc	tatcatctgc	180
atttgacctt	ctcaggtgct	accggactct	ggccctgat	gtctgtagtt	tcacaggatg	240
acttatctgc	cttctacac	ccacaggggc	ccctacttcc	tcggatgcat	ttttaataat	300
gtcagctatg	tgcacacac	tcttcatgc	ctcctctcc	tttctacaa	ctgctgagtg	360
gcctggaaat	tgtttaaagt	gt				382

&lt;210&gt; 140

&lt;211&gt; 200

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (200)

&lt;223&gt; n = A, T, C or G

&lt;400&gt; 140

accaaactt	ctttctgttg	tgttngattc	taatataggg	gtttingctn	ttctaaanat	60
acttttcatt	taacancttt	tgttaagtgt	caggtgcac	tttgcctcat	anaattattg	120
ttttacacat	tcaacttgta	tgtgtttgtc	tcttanagca	ttggtgaaat	cacatatttt	180
atattcagca	taaaggagaa					200

&lt;210&gt; 141

&lt;211&gt; 335

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (335)

&lt;223&gt; n = A, T, C or G

&lt;400&gt; 141

actttatttt	caaacacctc	atatgttgca	aaaacacat	agaataataa	agtttggttg	60
gggtgctgac	tzaacttcaa	gtcacagact	tttatgtgar	agattggagc	agggtttglt	120
atgratgtag	agaacccaaa	ctaatttatt	aaacaggata	gaacaggct	gtctgggtga	180
aatggttctg	agaaccatcc	aattcacctg	tcagatgctg	atanactagc	ttttcagatg	240
tttttctacc	agttcagaga	tnggttaatg	actanttcca	atgggggaaa	agcaagatgg	300
attcacaaar	caagtaattt	laaacaaaga	cactt			335

&lt;210&gt; 142

&lt;211&gt; 459

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (459)

&lt;223&gt; n = A, T, C or G

&lt;400&gt; 142

accaggthaa cattgocaa tatatccttt ccaattgggg gctaaacaga cgtgtattta	60
gggttgttta aagacaaacg agcttaatat cagagaaat tgtgaccttt catggagtat	120
ctgatggaga aacacgtgag ttttgacaaa tcttatttta ttcagatagc agtctgatca	180
caatgtgtcc aacaacactc aaataatata tcaatatna tcagatgtta aagatttggtc	240
ttcaaacatc atagccaatg atgcccrgct tgcctataat ctctccgaca taaaaccaca	300
tcaacacctc agtggccacc aaacattca gacacagctc cttaactgtg agctgtttga	360
agctaccagt ctgagcacta ttgactatnt ttttcangct ctgaatagct ctagggtatc	420
cagcangggg gggaggaacc agctaaacct tggcgant	459

&lt;210&gt; 143

&lt;211&gt; 140

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 143

acatttcctt caaccaagtc aggaatctctg gcttctgtgg gacttcttat caactgaggg	60
aatccaaac agtctctctt agaaaggaat agtgtcaca acccaccga tctcctgag	120
accatccgac tctcctgtgt	140

&lt;210&gt; 144

&lt;211&gt; 164

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (164)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 144

acttcagtaa caacatataa taacaacatt aagtgtatat tgcctctttt gtcattttct	60
atctatacca ctctcccttc tgaacaaan aatcantano caatcactta taacaaattg	120
aggaatttaa tcaatatttg ttttcaates ggaanaang atgt	164

&lt;210&gt; 145

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (303)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 145

acgtagacca tccaactttg tttttgtaat ggcaaacatc cagnagcaat tctaaacaa	60
actggagggt attttatccc aattatcccc ttcattcaaa tgcctctctc ctccaggctat	120
gcaggacagc tatcataagt cggccacagg atccagatgc taccatttgt ataaacttca	180
gtaggggagt ccatccaagt gacaggtcta atcaaggag gaattggaa ataaagccag	240
tagtaaaatn ttgcttagct gaacacagca caaaagactt accgcctgg tgattaccat	300
caa	303

&lt;210&gt; 146

&lt;211&gt; 327

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(327)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 146

actgcagctc aattagaagt ggtctctgac ttctatcanc ttctccctgg gttccatgac	60
actggccctgg agtgactcat tgctctgggt ggttgagaga gtccctttgc caacaggcct	120
craagtcagg gctgggattt gtttcttthc cacattctag caacaatag ctggccactt	180
cctgaacagg gagggtggga ggagccagca tggacaaggc tgcactttc taaagtagcc	240
agacttgccc ctgggacctg cacacctact gatgaacttc tgtgacctga ggatgggaatg	300
tgggggtgag ctgtgtgact ctatgggt	327

&lt;210&gt; 147

&lt;211&gt; 173

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(173)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 147

acattgtttt tttagatatc agcattgena gagctctcct taavgtgaca caatgggaag	60
actgggaacc ataccacat ctttgttctg agggataatt ttctgataaa gtattgtgtg	120
atattcaagc acatatgta tatattatc agttccatgt ttatagcta gtt	173

&lt;210&gt; 148

&lt;211&gt; 477

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(477)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 148

acaaacctt tatctcatcg aatttttaac ccaaactcac tcaactgtgc ttctatctct	60
atgggaatata ttatttgatg ctccatttca tcaracatat atgaataata cactcatact	120
gccctactac ctgctgcagt aatcacattc ctttctgtc ctgacctga agcattggg	180
gtggtcttag tggccatcag tccatggctg cacttgagc ctttgagctc cattgtctac	240
acacacccac ctacacgacc caatcctctt acacagctac ctcttgctc tctaacccca	300
tggattatnt ccaatttcag tcaattaaat tctctttaac actctaccuy acatgtcag	360
caccactggt aagccttctc cagccaaacac acacacacac acacacacac ccacacatat	420
ccaggcacag gctacctcat ctccacaatc acccctttaa ttacccatgt atgggtgg	477

&lt;210&gt; 149

&lt;211&gt; 207

&lt;212&gt; DNA



<213> Homo sapien

<400> 149

```
acagttgtat tataatolca agaatataar ttgcantgag agcattteay agggagagac      60
taacgtatatt tagagagcca aggaaggttt ctgtggggag tgggatgtaa gglggggcct      120
gatgataaat aagagtcagc caggttaagt gglggtgtgg tatgggcaca gtgaagaaca      180
tttcagggag agggacacag agtgaa
```

207

<210> 150

<211> 111

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> {1}...{111}

<223> n = A,T,C or G

<400> 150

```
accttgattt cattgctgct ctgatggaaa ccccaactat taatttagct aagacatggg      60
cacttaabtg tggcagtggt ttggacttgt taactantgg catctttggg t
```

111

<210> 151

<211> 196

<212> DNA

<213> Homo sapien

<400> 151

```
agcgcgag gtcatttga acattccaga taactatcat tactcgatgc tgttgataac      60
agcaagatgg ctctgaactc aggggcacaa caagctattg gcccttacta tgaaaacat      120
ggataccaa cggaaaacc ctatccgca cagcccactg tggccccac tttctatgag      180
gtgcatcgg ctcagt
```

196

<210> 152

<211> 132

<212> DNA

<213> Homo sapien

<400> 152

```
acagcattt cacatgtaag aaggggagaa ttcttaaatg tagggagaaag ataacagAAC      60
cttccatttt tcatctagtg gtggaaacct gatgctttat gttgacagga atagaaccag      120
gagggagtct gt
```

132

<210> 153

<211> 285

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> {1}...{285}

<223> n = A,T,C or G

<400> 153

```
acaaaccca nganaggcca ctggccgtgg tgtcatggcc tccaaacatg aaagtgtcag      60
```

```

cttctgctct tatgtcttca tctgcaact ctttaccatt ttatctctcg ctcaagcayga 120
gcacatcaat aaagtccaaa gtcttggaat tggccttggc ttggaggaaq tcatcaaac 180
cctggctagt gaggggtggg cggcgctcct ggaatgacggc ctctgtgaag tctgtcaca 240
gtctgcaggc cctgtggaaq cgccgtccac agggagtnag gaatt 285

```

```

<210> 154
<211> 333
<212> DNA
<213> Homo sapien

```

```

<400> 154
accacagtcn tgltgaggca gggcttcatt acccttcttg tgaaaagcca tattatcaac 60
accccaaat tttcctttaa catccttaac tgaaggggtc agcctcttga ctgcacagac 120
cctaagcggg ttacacagct aactccact ggccttgatt tgtgaaattg ctgtgctctg 180
attggacag gactcgaagg tgttcagctc cctctctcag tggacagaga ctctgatttg 240
agtttcacaa attctcgggc cactctgta tctctctct gaaataaat ccggagaatg 300
gtcaggcctg tctctctcat atggatcttc cgg 333

```

```

<210> 155
<211> 308
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> 11... (308)
<223> n = A,T,C or G

```

```

<400> 155
actggcaata ataaaaccca catcacagtg ttgtgtcaca gatcatcagg gcatgggatgg 60
gaaagtgett tgggaactgt aaagtgccta acacatgato gatgattttt gtlataatat 120
ttgaatcagg gtgcatacaa actctcttgc ctgtctctcc tgggccccag cccacagccc 180
atcacagctc actgtctgtg tcatccaggg ccagcatgta gtggctgatt ctctctgggt 240
gtttttaggc tccanaagtt tctctgaagg caacaaaccc tctangtata aggcattgtg 300
ggcctggg 308

```

```

<210> 156
<211> 295
<212> DNA
<213> Homo sapien

```

```

<400> 156
acottgctcg gtgcttggaa catattagga actcaaaata tggatgata acagtgccta 60
ttcttgatta ctgagagaac tgttagacat ttagtgaag attttctaca caggaaactga 120
gaataggaga ttatgtttgg cctcataat ctctctatc ctcttgcct cattctatgt 180
ctaatatatt ctcaatcaa taaggctagc ataacagga atcagacaa ataccaatat 240
aaaaccagat gtctatctct aagattttca catagaaac aaattacag actat 295

```

```

<210> 157
<211> 126
<212> DNA
<213> Homo sapien

```

```

<400> 157
ccaagtttaa atagtgtgt cactgtgcat gtgctgaat gtgaaatcca ccacatttt 60

```

gaagagcaaz acaaattctg tcatgtatc totatcttgg gtctgttgga tatctgtccc 120  
cttagt 126

<210> 158  
<211> 442  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> {1}... (442)  
<223> n = A,T,C or G

<400> 158  
accactggt cttggaaaca cccatcctta atacgatgat tttctgtgtg tctgaaatg 60  
aanccagcag gctgcucca gtcagtcctt ccttccagag aaaaagagat ttgagaaagt 120  
gctgggtta ttcaccatta atttcctccc ccactcttc tgaatttcc cttactatt 180  
ctggtggttc tgacaaagc aggtcatggt ttgttgagca ttgggatcc cagtgaagta 240  
natgtttgta gctttgcata cttagccctt cccacgcaca aacggagtgg cagagtggtg 300  
ccaacctgt ttccacagt cactagaca gattcacagt ggggaattct ggaagctgga 360  
nacagacggg ctctttgcag agcggggact ctgagangga catgagggcc tctgcctctg 420  
tgttcattct ctgatgtcct gt 442

<210> 159  
<211> 498  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> {1}... (498)  
<223> n = A,T,C or G

<400> 159  
acttccaggt aacgtgtgtg ttctcgttga gctgaactg atgggtgacg ttgtlaagttc 60  
tccaaacaaga actgaggttg cagagcgggt agggaaagat gctgttccag ttgcacctgg 120  
gctgtgtgtg actgtgtgtg attctcact acggcaccag gttgtggaac tggcannaag 180  
gtgtgtgtgt gganttgagc tggggcggtc gtggtaggtt gtgggctctt caacaggggc 240  
tgctgtgtgt cggggangtg aangtgttgt gtracttgag cttggccagc tctggaagt 300  
antanattct tctgaagge cagcgttgtt ggaagctggca agggtcantg ttgtgtgtaa 360  
cgaaccagtg ctgctatggg tgggtgtana tctccacaa agcctgaagt tatggtgtcn 420  
tcaggtana atgtggttct agtgcctctg ggongctgtg gaaggttgtt nattgtcacc 480  
aagggaataa gctgtgtg 498

<210> 160  
<211> 380  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> {1}... (380)  
<223> n = A,T,C or G

<400> 160

```

accagcacc accctccctg ccaaacctaac aaggagacat caacctctag acagggaaac      60
agcttcagga tacttccagg agacagagcc accagcagca aaacaaatat tccuatgct      120
ggagcctggc atagaggaag ctganaaetg tggggtctga ggaagccatt tgagtctggc      180
cactagacat ctcatcagcc acttggtgtga agagatgccc catgacccca gatgcctctc      240
cagccttac ctccatctca cacacttgag ctctccactc tgtataattc taacatccctg      300
gagaaaaatg gragtttgac cgaacctgtt cacaacgcta gaggetgatt tctaacgaaa      360
cttgtagaal gaagcctgga                                     380

```

<210> 161  
 <211> 114  
 <212> DNA  
 <213> Homo sapien

```

<400> 161
actccacatc ccctctgagc aggcgggttg cgttcaaggc gtatttgccc ttgcctgtca      60
cactgtccac tggcccttca tccacttggt gcttaattccc tcgaaagagc atgt      114

```

<210> 162  
 <211> 177  
 <212> DNA  
 <213> Homo sapien

```

<400> 162
accttctgaa cagatcaaa tgatacttag ttagtcttta atatcctcat atatctcaaa      60
gtttactaac tctgataatt ttgtaaacca ggtaaccaga acatccagtc atacagcttt      120
tggtgatata taacttggca ataaccagc ctggtgatac ataaaatcac tcaactgt      177

```

<210> 163  
 <211> 137  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...{137}  
 <223> n = A,T,C or G

```

<400> 163
catttatada gacaggcgtg aagacattca cgacaaaaac gggaaattct atcccgtgac      60
canagaaggc agctacggct actctacat cctggcgctg gtggccttcg catgcacctt      120
catcagcggc atgatgt                                     137

```

<210> 164  
 <211> 469  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...{469}  
 <223> n = A,T,C or G

```

<400> 164
cttatcaaaa tgaattttct cctgggagcc gttgtgatct ttgccacatt cgtgacttta      60
tgcaatgcac catgctatct catcctaat gaggagattc caggagattc aacaggaaa      120

```

```

tgcattggatc tcaaaaggaa caaacaccca ataaactcgg agtggcagac tgacaactgl      180
gagacatgca ctgtctacga aacagaaatt tcattgttgc ccttgtttc tacacctgtg      240
ggttatgaca aagacaactg ccaaaagaatc ltaaggaagg aggaclgcaa gtatatcgtg      300
gtggagaaga aggaccacaa aaagacactgt tctgtcagtg aatggataat ctcatgtgct      360
tctagtgggc aaaggggtcc caggtcaggc ctcatctcc tctggcctct aatagtcaat      420
gattgtgtag ccatgcttat cagtaaaag atntttgagc aaacacttt      469

```

<210> 165  
 <211> 195  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...{195}  
 <223> n = A,T,C or G

```

<400> 165
acagtttttt atatatatcg acattgcagg cacttctgtt cagtttccata aagctgggtg      60
atccgtgtc atcactatt ccttggctag agtaaaatt attcttatag cccatgtccc      120
tgcaggccgc ccgcccgtag ttctgtttcc agtctctttg gcacacaggg tgccaggact      180
tcccttgaga tgagt      195

```

<210> 166  
 <211> 383  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...{383}  
 <223> n = A,T,C or G

```

<400> 166
acatcttagt agtgtggcac atcagggggc catcagggtc acagtccctc atagcctcgc      60
cgaggtcgga gtccacacca ccggtgtagg tgtgctccat cttgggcttg ggcgccacct      120
ttggagaagg gatatgctgc acacacatgt ccacaaagcc tgtgaactcg ccaagaatt      180
tttgcagacc agcctgaaga aggggtggat gttcagcttc agtccctct tctcaggtg      240
gatgcuaacc tegtctangg tccgtgggaa gctgggtgct acntccacta caacctgggc      300
gangatctta taaagaggct ccnagataaa ctccagaaa cttctctggg agctgctagt      360
nggggccttc ttggtgaact ttc      383

```

<210> 167  
 <211> 247  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...{247}  
 <223> n = A,T,C or G

```

<400> 167
acagagccag accttggcca taatgaanc agagatteag actaaacccc aagtoganat      60
tggagcagaa autggagcaa gaagtgggcu tggggctgaa glapagacca aggcactgc      120

```

tatanccata caccagagcca accttcaggc caaggcctatg gttggggcag anccagagac	180
tcaatctgan tccaaagtgg tggctygaac actggctcatg acanaggcag tgaetctgac	240
tgangtc	247

&lt;210&gt; 168

&lt;211&gt; 273

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{273}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 368

acttctaagt ttctagaag tgggaagatt gtatcctcc tgaatattggg ttacttcaa	60
aatccctcan ccttggtctt cactactgtc tctactgana gtgtcatgtt tccacaaagg	120
gctgaacoot gagctcgnat ttctactcat, ccttgagaag ccttttccag tagggtyggc	180
aattcccaac ttcttgcga caagcttccc aggtctcttc ccttggaacc ctccagcttg	240
agtcacagat aaactcatgg gtgcctctg gca	273

&lt;210&gt; 169

&lt;211&gt; 431

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{431}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 169

acagccttgg ctcccccana ctccacagtc tcaagtgcga aagatcatct tccagcagtc	60
agctcagacc agggtnaagg gatgtgacat caacagtttc tgytttcaga acaggttcta	120
ctactgtcaa atgacccccc atacttcttc aaaggtctgt gtatgttttg cacaggtgag	180
ggcagcagaa agggggtant tactgatgga caccatcttc tctgtatart cccactgac	240
cttgccatgg gcaaaaggccc ctaccacaaa aacaatagga tcaatgctgg gcaccagctc	300
acgcacatca ctgacaaccg ggatygaaaa agaantgcca acttctatar atccaaactgg	360
aaagtgatct gatctggat tcttaattac ctccaaaagg ttchgggggg catcagctgc	420
tgaacactg a	431

&lt;210&gt; 170

&lt;211&gt; 266

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{266}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 170

acctgtgggc tgggtgttta tgctgtgcu ggtgtctgaa agggagttca gaggtggagc	60
tcaaggagct ctgcaggcat ttgccaanc ctctccanag canaggagc aacctaacct	120
cccgctaga aaagacaccag attggagtc tgggaggggg agttgggggtg ggcatttgat	180

gtatacttgt cacttgaatg aangagccng agaggaanga gacgaaatg analttggcct 210  
tcaaagctag gggctctgga gytgga 266

<210> 171

<211> 1248

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> {1}...{1248}

<223> n - A,T,C or G

<400> 171

```

ggcagccaaa tcataaacgg cgaggactgc agcccgact cguagccctg gcaggcgcca      60
ctggtcattg aaaaacgaatt gttctgctcg ggcgtccctg tgcattccga gtgggtgctg      120
ttagccgcac actgtttcca gaagtgaatg cagagctcct acaccatcgg gctgggcttg      180
cacagtcttg aggcgcacca agagccagg agccagatgg tggaggcccg cctctccgta      240
cggcaccacg aytacacacg acccttgctc gctaacgacc tcatgtctat caagttggac      300
gaatccgtgt ccgagtcctg caccatccgg agcatcagca ttgcttcgca gtgccttacc      360
gcgggggaact ctctgctcgt ttctggctgg ggtctgctgg rgaacggcag aatgcctacc      420
gtgtgtcagt gcgtgaacgt gtccgtggtg tctgaggagg tctgcagtaa gcttatgac      480
ccgtgttacc accccagcat gttctgcgrr ggccggagggc aagaccagaa ggactcctgc      540
aacagtgaat ctgggggggc cctgatctgc aacgggtact tgcagggcct tgggtctttc      600
ggaaaagccc cgtgtgacaa agttggcgtg ccaggtgtct acaccaaact ctgcaaatcc      660
actgagtgga tagagaaaac cgtccaggcc agttaartct ggggactggg aacccatgaa      720
attgaccccc aatatacatc tgcgggaagg attccaggaat atctgttccc agccctcct      780
ccctcaggcc caggagtcca ggcrrccggc cctcctccc tcaaaccaag ggtacagatc      840
ccagccctct cttcctcag acuuaggagt ccagaccccc cagccctctc ccctcagac      900
ccaggagtcc aguccctct cctcagacc caggagtcca gaccccccag cccctcctcc      960
ctcagaccca ggggtccagg cccccaaccc ctctcctcc agactragag gtccaagccc      1020
ccaacccntc attccccaga cccagaggtc caggtcacag cccctctctc ctagaccca      1080
gcagtccat gccacctaga ctntcctgt acacagtgc ccttgtggc acgttgcccc      1140
aaccttacca gttggtttt catttttngt ccccttccc tagatccaga aataaagttt      1200
aaggagagng caaaaaaaa aaaaaaaan aaaaaaaan aaaaaaaa      1248

```

<210> 172

<211> 159

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> {1}...{159}

<223> Xaa - Any Amino Acid

<400> 172

```

Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro
1          5          10          15
Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser
20          25          30
Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr
35          40          45
Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly
50          55          60

```

Arg Met Pro Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu  
 65 70 75 80  
 Glu Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe  
 85 90 95  
 Cys Ala Gly Gly Gln Xaa Gln Xaa Asp Ser Cys Asn Gly Asp Ser  
 100 105 110  
 Gly Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe  
 115 120 125  
 Gly Lys Ala Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn  
 130 135 140  
 Leu Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser  
 145 150 155

<210> 173  
 <211> 1265  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)... (1265)  
 <223> n - A, T, C or G

<400> 173  
 ggacagccgc actgcagcc ctggcaggcg gactgggtca tggaaaacga attgttctgc 60  
 tggggctcc tgggtgcatc gcaatgggtg ctgtcagccg cacactgttt ccagaactcc 120  
 tacaccatcg ggtctggcct gcacagtctt gaggccgacc aagagccagg gagccagatg 180  
 gtggaggcca gctctccgt acggcaccga ggtacaaca gacacttgcg cgttaacgac 240  
 cttatgtcca tcaagtttga cgaatccgtg tccgagctcg acaccatccg gaggcatcagc 300  
 attgcttgcg agtgccttac cgggggaaac tcttgcctcg ctcttggctg gggtctgctg 360  
 gegaacgggtg agtccacggg tgtgtgtctg cctcttcaa ggaggccttc tgcacagtcg 420  
 cgggggctga ccagagctc tgcgtcccag gcagaatgcc taccgtgctg cagtgcgtga 480  
 acgtgtcggg ggtgtctgag gaggtctgca gtaagctcta tgaccgctg taccacccca 540  
 gcatgttctg cgcgggcgga gggcaagacc agaaggactc ctgcacaggt gartctgggg 600  
 ggccctgat ctgcaacggg taattgcagg gcttctgtct ttcggaaaa gccctgtgtg 660  
 gccaaagtbg cytgcacagg gtctacacca acctctgcaa attcactgag tggatagaga 720  
 aaacgttcca ggccagttca ctctggggac tgggaaccca tgaattgac ccccaaatat 780  
 atcttgccga aggaattcag gaatatctgt tcccagcccc tctccctca ggccaggag 840  
 tccagggccc cagccctcc tccctcaaac caagggtaca gatccccag cctcctccc 900  
 tcagacccag gactccagac ccccagccc ctctctctc agaccagga gtccagcccc 960  
 tctctctca gaccagggg tccagacccc ccagccctc ctccctcaga ccagggggtt 1020  
 gaggccccc accctctct cttcagagtc agaggtccaa gcccccacc cctcgttccc 1080  
 cagaccaga ggttnaggtc ccagccctc ttccntcaga cccagnggtc caatgccc 1140  
 tagattttcc ctgnacacag tgcctccttg tggnaagttg acccaacctt accagttggt 1200  
 ttttatttt tngtccctt cccctagatc cagaaataaa gttaaagaga ngngcaaaaa 1260  
 aaaaa 1265

<210> 174  
 <211> 1459  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)... (1459)



&lt;223&gt; n = A,T,C or G

&lt;400&gt; 174

gggcagccgc	acactgtttc	cagaggtgag	tgacagagctc	ctacaccate	gggctgggac	60
tgacaggtct	tgagggcgac	cagagagcag	ggagccagat	ggtaggagcc	agcctctccg	120
taaggacccc	agagtacaac	agacccttgc	tcgtatacga	ccctcatgctc	atcaggttgg	180
acgaatccgt	gtcccgagtct	gacaccatcc	ggagcatcag	cattgcttcc	cagtgcctta	240
cgcgggggaa	ctcttgcttc	gtttctggct	ggggctctgt	ggcgagccgt	gagctccacg	300
gtgtgtgtct	gcccctcttc	aggaggtcct	ctgcccaytc	gcgggggctg	acccagagct	360
ctgcgtccca	ggcagaatgc	ctaccgtgct	gcagtgcgtg	aaagtgtcgg	tggtgtctga	420
ngaggtctgc	antaaqctct	atgaccgct	gtaccacccc	ancatgttct	gcgcgggctg	480
agggcaagac	cagaaggact	cctgcaacgt	gagagagggg	aaaggggagg	gcaggcgct	540
cagggaaggg	tgaggaaggg	ggagacagag	acacacaggg	ccgcacggcg	agatgcagag	600
atggagagac	acacagggag	acagtgaaca	ctagagagag	aaatgcagag	aaacagagaa	660
ataaacacag	gaataaagag	augcaaagga	agagagaaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcagttga	ccttccaaac	gcattggggc	tgagggtcgt	780
gacctccacc	caatagaana	tctcttata	acttttgact	ccccaaaaac	ctgactagaa	840
atagcttact	gttgacgggg	agccttacc	ataacataaa	taqtctgatt	atgcatacgt	900
tttatgcatt	catgatatac	ctttgttggg	attttttgat	atttctaacg	taacagttc	960
gtctgtgaat	tttttttaaa	tgttgcaact	ctcctaaaa	ttttctgatg	tgtttcttga	1020
aaaaatccaa	gtataagtg	acttctgcat	tcaaacaggg	gttgttcaag	ggtcaactgt	1080
gtacccagag	ggaaacagtg	acacagattc	atagaggtga	aacacgagga	gaaacaggaa	1140
aatcaagac	tctacaaaga	ggctgggacg	ggtggctcat	gcctgtaate	ccagcacttt	1200
gggaggcgag	gcagggcagat	cacttgagg	agggagttca	agacnagcct	ggccaaaatg	1260
gtgaaatcct	gtctgtacta	aaaataaaaa	agttagctgg	atatygtggc	agggcctctg	1320
aatccagct	acttgggagg	ctgaggcagg	agaattgctt	gaatatggga	ggcagaggtt	1380
gaagtgaagt	gagatcacac	cactatcttc	cagctggggc	aacagaytaa	gactctgtct	1440
caaaaaaaa	aaaaaaa					1459

&lt;210&gt; 175

&lt;211&gt; 1167

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(1167)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 175

gggcagccct	ggcagggcgc	actggctcatg	gaaaaagaat	tgttctgctc	gggctgctg	60
gtgcacccgc	agtgggtgct	gtcagccgca	cactgtttcc	agaactccta	caccatcggt	120
ctgggcttgc	acagtcttga	ggcggaccaa	yagccagggg	gccagatggt	ggagggcagc	180
ctctccgtac	ggcaccacga	gtaccaacga	ctcttgcctg	ctaacgacct	catgctcate	240
aaagtggagc	aatccgtgtc	ngagtctgac	accatcggga	gcateagcat	tgcttcgacg	300
tgcctacccg	gggggaactc	ttgcctcgtn	tctggctggg	gtctgctggc	gaacggcaga	360
atgcctacgc	tgttgcactg	cgtgaacgtg	tgggtgggtg	ctgaggangt	ctgcagtaag	420
ctctatgac	cgtgttarra	ccccagcatg	ttctgcgcgc	gcggagggga	agacnagag	480
gactcctgca	acgggtgaact	tggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtcttctg	gaaaagccrc	gtgtggccaa	cttggcgtgc	caggtgtcta	cacraacctc	600
tgcacatcca	ctgagtggt	agagaaaacc	gtccayncca	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccc	aatatctct	gcggaangaa	ttcagggaata	tctgttccca	720
gccctcctc	cctcagggcc	aggagtrcag	gcccuvagcc	cctctcccl	caaaccaagg	780
gtacagatcc	ccagccctc	ctccctcaga	cccaggagtc	cagacccccc	agccctcct	840
cctcagacc	caggagtcca	gccctctctc	cctcagagcc	aggagtcccg	accccccagc	900

```

cccccccccc ccccccaccc ccccccaccc ccccccaccc ccccccaccc ccccccaccc 960
cccccccccc ccccccaccc ccccccaccc ccccccaccc ccccccaccc ccccccaccc 1020
cccccccccc ccccccaccc ccccccaccc ccccccaccc ccccccaccc ccccccaccc 1080
cccccccccc ccccccaccc ccccccaccc ccccccaccc ccccccaccc ccccccaccc 1140
cccccccccc ccccccaccc ccccccaccc ccccccaccc ccccccaccc ccccccaccc 1167

```

<210> 176  
 <211> 205  
 <212> PRT  
 <213> Homo sapien

<220>  
 <221> VARIANT  
 <222> (1)...[205]  
 <223> Xaa - Any Amino Acid

<400> 176  
 Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp  
 1 5 10 15  
 Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu  
 20 25 30  
 Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val  
 35 40 45  
 Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu  
 50 55 60  
 Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser  
 65 70 75 80  
 Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly  
 85 90 95  
 Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met  
 100 105 110  
 Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val  
 115 120 125  
 Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala  
 130 135 140  
 Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly  
 145 150 155 160  
 Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys  
 165 170 175  
 Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys  
 180 185 190  
 Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser  
 195 200 205

<210> 177  
 <211> 1119  
 <212> DNA  
 <213> Homo sapien

<400> 177  
 gggcactcgc aggcctggca gggcgcactg gtcacagaaa acgaattggt ctgctcgggc 60  
 gtcctgggtg atcgcagctg ggtactgtca ggcgcacact gtctccagaa ctctacacac 120  
 atcgggcttg gctcgcacag tcttgaggcc gcccaagagc caggagacaa gatgctggag 180  
 gccagcctct ccgtacggca cccagagtaa aacagacacct tgcctcctaa cgaactcatg 240  
 ctcatcaagt tggacgacac cgtgtccgag tctgacacaa tccggagcat cagccttgc 300

```

tcgcagtgcc ctaccgaggg gaactcttgc ctggtttctg gctgggggtct gctggggaac 360
gatgctgtga ttgccatcca gtcccagact gtgggagggt gggagtgtga gaagctttcc 420
caaccctggc aggggttgtac catttcggca acllccagtg caaggarglc ctgctgcatc 480
ctcactgggt gctcactart gtcactgca tcacccggaa cactgtgate aactagccag 540
caccatagtt ctccggaagtc agactatcat gatlaactgtg ctgactgtgc tctctattgt 600
actaagcaatg ccgatgttta ggtgaaatta gctgacttg gccccaacca tcttggtatc 660
cagttatcct cactgaattg agatttcttg ctccagtgc agccattccc acataatttc 720
tgacctacag aggtgagggg tcataatagct ctccaaggat gctggtactc cctccacaaa 780
ttcatttctc ctgttgtagt gaaaggtgag cctctctggag cctccraggg tgggtgtgca 840
ggtcaccaatg atgaatgtat gatcgtgttc ccattacccc aaguccttaa atccctcatg 900
ctcagtaaac cagggcaggt ctagratctc ttcatttagt gtatgctgtc cattcatgca 960
accacctcag gactcctgga ttctctgct agttgagctc ctgcatgctg cctccttggg 1020
gaggtgaggg agaggggccc tggttcaatg ggatctgtgc agttgtacaa cattaggtgc 1080
tlaataaaca gaagctgtga tgttaaaaaa aaaaaaaa 1119

```

&lt;210&gt; 178

&lt;211&gt; 164

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (1)...(164)

&lt;223&gt; Xaa - Any Amino Acid

&lt;400&gt; 178

```

Met. Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
1          5          10          15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
20        25        30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
35        40        45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu
50        55        60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
65        70        75        80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
85        90        95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Asp Ala Val
100       105       110
Ile Ala Ile Gln Ser Xaa Thr Val Gly Gly Trp Glu Cys Glu Lys Leu
115       120       125
Ser Gln Pro Trp Gln Gly Cys Thr Ile Ser Ala Thr Ser Ser Ala Arg
130       135       140
Thr Ser Cys Cys Ile Leu Thr Gly Cys Ser Leu Leu Leu Thr Ala Ser
145       150       155       160
Pro Gly Thr Leu

```

&lt;210&gt; 179

&lt;211&gt; 250

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 179

ctggagtgcc	t.tgggtatttc	aaagccacctgc	aggaagcaga	atgcacattc	tgaggcaact	60
ccagctgccc	cgggcggggg	gatgcggggc	tgggagcacc	cttgccgggc	tgtgatttgt	120
gcagggcact	gttcatctca	gattttctgt	cccttttgtc	cgggcaagcg	cttctgttga	180
aagtctcat	ctggagcctg	atgtcttca	gaataaaggt	cccatgtccc	acccgaaaaa	240
aaaaa						250

```
<210> 180
<211> 202
<212> DNA
<213> Homo sapien
```

<400> 180						
actagtcacg	tgtgggtggaa	ttccattgtg	ttggggcccaa	cacaatggcl	acctttaacg	50
tcacccagac	cccgcccttg	cccggtgcgc	acgctgctgc	taacyacagt	atgatgctta	120
ctctgctact	cggaaactat	ttttatgtaa	ttaatglatg	ctttcttgtt	tataaatgcc	180
tgatttaaaa	aaauaiaaaa	aa				202

```
<210> 181
<211> 558
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> {1}...{558}
<223> n = A,T,C or G
```

400 181						
cccytttggk	naggtttkkq	agacamccc	agacutwaan	ctgtgtcaoa	gaectcyngg	60
aatgtttlag	cagtgctagt	aatttctyog	taatgattcl	gttattactt	tcctnattct	120
ttattccctt	ttctctotga	gattaatgaa	gttgaauatt	gaggtggela	aatacaaaa	180
ggtagtgtga	tagtataagt	atclaaegtgo	agatgaaagt	gtgttatata	tatccattca	240
aaattatgca	agtttagtao	tactcagggg	taactaaatt	actttaatal	gctgttgaac	300
ctactctgtt	cottggctag	aaaaaattat	aaacaggact	tlgttaggtt	gggaagccaa	360
attgataata	ttctatgttc	taaaagttgg	gctatacata	aattattaaq	aaatatggaw	420
ttttattccc	aggaatatgg	kgttcatttt	atgaatatla	cscrygatag	awgtwtgagt	480
aaaycagtt	ttggtwaaat	ygtwaatatg	tcmteaataa	acaakgcttl	gaettatttc	540
caaaaaaaa	aaaaaaa					558

```
<210> 182
<211> 479
<212> DNA
<213> Homo sapien
```

```
<220>
<221> ming_feature
<222> (1) ... {479}
<223> n = A, T, C or G
```

400-182						
acagggttk	grggatgcta	agccccrga	rwtygcttga	tccaacccctg	gotttttttc	60
agaggggaaa	atggggccta	gaagktacag	mscatytagy	tggtgogmtg	gcacccctgg	120
cctcacacag	artcccgagt	agctgggact	acaggcacac	agtractgaa	gcaggccctg	180
ttwgcatttc	acgttgccac	ctccccctta	aacattcttc	atatgtgatg	tccttagtca	240
ctagggttaa	acttccccac	ccagaaagg	caacttagat	aaaatcttag	agtaactttca	300

```

tactmttcta agtctctctc cagcctcact kkgagtcctm cytgggggtt gatagggaant. 360
ntctcttggc ttctctcaca aartctctat ycatctcatg tthaalttgg tarcgacera 420
awtgstgaca aaattaaaat gtctctgctty marctttaaa arnaaaaaaa aaaaaa 479

```

<210> 183  
 <211> 384  
 <212> DNA  
 <213> Homo sapien

```

<400> 183
agggcgggagc agaaagctaaa gccaaagccr aagaagagty gcagtgccag caotgggtgcc 60
agtaccagta ccaataacag tgcagtgccr agtgccagca cragtgggtg cttcagtgct 120
gggtgccagcc tgacggccar tctcacattt gggctcttcg ctggcctctgg tggagctggg 180
gccagracca gtggcagctc tgggtgctgt ggttctctct acagtgaga ttttagatat 240
tgttaatcct gccagtcttt ctctcagc cagggtgcat cctcagaaac ctactcaaca 300
cagcactcta ggcagccact atcaatcaat tgaagttagc actctgcaat aratctattt 360
gccatttcaa aaaaaa aaaa 384

```

<210> 184  
 <211> 496  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (496)  
 <223> n = A, T, C or G

```

<400> 184
accgaattgg gaccgctggc ttataagcga tcatgttynt ccrgtatkar ctcaecgagc 60
agggagatug agtctatarg ctgaagaaat ttgaccgcat gggacaacag adotgctrag 120
cccatcctgc tgggttctcc ccagatgaca aatactcttg acaccgaate accatcaaga 180
aacgcttcaa ggtgctcatg anccagcaac cggcgcctgt cctctgaggg tcccttaaac 240
tgatgctttt tctgccacct gttacccctc ggagactcgg taaccgaact ctteggactg 300
tgagccctga tgcctttttg ccagccatac tctttggcat ccagtctctc gtygogattg 360
attatgcttg tgtgaggcaa tcatgggtgg atccccata aagggaacac atttgacttt 420
tttttctcat attttaatt actacmagaw tattwmagaw waaatgawt gaaaaactst 480
taaaaaaa aaaaaa 496

```

<210> 185  
 <211> 384  
 <212> DNA  
 <213> Homo sapien

```

<400> 185
gctggtagcc tatggcgkgs cccacggagg ggtcctgag gccacggcac agtgacttcc 60
caagtatcyt ggcsgcgtc ttctacrgtc cctacctgca gatcttcggg cagatcccc 120
aggaggacat ggacgtggcc ctcatygagc acagcaactg ytcghcggag ccggcttct 180
gggcacaccc tcttggggcc caggcgggca cctgctctc caagtatgcc aacttggctg 240
tggtgctgct cctngtcac ttctgctcg tggccaaat cctgctggg aacttggctc 300
ttgcatgtt cagttacaca ttcggcaag tacagggcaa cagcagctct tcttgggna 360
ggcagcggtt accgctcat ccgg 384

```

<210> 186  
 <211> 577

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(577)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 186

gagttagctc	ctccacaacc	ttgatgaggt	cgtctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgct	atactgtagg	tttgcaccca	cytcctggca	tcttggggcg	gcntaatatt	120
ccaggaaact	ctcaatcaag	tcacccgtcg	tgaaccctgt	gggctgggtc	tgtcttcgcg	180
tcggtgtgaa	aggatctccc	agaaggagtg	otcgatcttc	cccacacttt	tgatyaacttt	240
attgagtcga	ttctgcatgt	ccagcaggag	gttgtaccag	ctctctgaca	gtgaggtcac	300
cagccctatc	atgcgcttga	mcgtgccgaa	garcacccag	ccttgtgtgg	gggkkgaggt	360
ctcaccraga	ttctgcattc	ccagagagag	gtggcaaaag	acattgacaa	actcgcgccg	420
gtggaaaaag	amcannctcc	ggargtgctn	gcgcctcttc	gtcmgttggg	ggcagcgctw	480
tcccttttgac	acacaaaacg	gttaaaaggca	ttttcagccc	ccagaaantt	gtcatratcc	540
aagatntcgc	acagcactna	tccagtggg	attaaat			577

&lt;210&gt; 187

&lt;211&gt; 534

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(534)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 187

aacatcttcc	tgtatcatgc	tgtgtaatat	cgatccgagc	ttgtctggtg	agaatycatw	60
actkggaaag	gmaacattaa	agcctgggac	ctgggtattaa	aattcacaat	atgcacacact	120
lttaaacagtg	tgtcaatctg	ctccryynac	tttgtcatca	ccagctctgg	aakaagggtg	180
tgccttattc	acacctgtta	aaaggggcgt	aagcattttt	gattcaacat	cttttttttt	240
gacacaaagtc	cgaaaaaagg	aaaagttaac	agttatyaat	ttgttagcca	attcaatttc	300
ttcatgggac	aggagccatyt	gatttaaaaa	gcaaatlgca	taatatggag	cttyggggagc	360
tgatatttga	gcggaagaag	agcattttct	cttcaccaga	cacaactccc	ttcatatttg	420
ggatgttnac	naaagtwatg	tctctwacag	atgggatgct	tttgtggcaa	ttctgtcttg	480
aggatctccc	agtttattta	ccatttgcac	aagaaggcgt	tttcttcttc	aggr	534

&lt;210&gt; 188

&lt;211&gt; 761

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(761)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 188

agaaaccagt	atctctnaaa	acaaacctctc	ataccttgtg	gaacctaat	tgtgtgagtg	60
tgtgtgtgag	cgcatattat	atagacaggg	acatcttttt	tacttttgtg	aaagcttatg	120
cctctttggg	atctatatct	gtgaaagctt	taattgatctg	ccatnatgtc	ttggggagct	180

```

ttgtcttcty tgtaatggt actagagaaa acacctatnt tatgagtcuu tctagttngt. 240
tttattcgac atgaaggaaa ttccagatn acacactna caaactctcc ctkgackarg 300
ggggacacag auaagccaaa ctgamcataa raacacatwa cctgggtgag arttgcataa 360
acagaaatwr ggtagtatat tgaatnacag catcattaaa rmggttwktt wttctccctt 420
gcacaaaaeca tgtacngact tcccggtgag taatgcccag ttgtcttctt catnataaaa 480
cttgcccttc attacatggt tnaaagtgt gtggtgggnc aaaaatattga aatgatggaa 540
ctgactgala aagutgtaca aataagcagt gtgcctaaac agcaacacag taatgttgac 600
atgcttaatt cacaaatgct aatltcatta taaatgttfg ctcaaatata ctctgaacta 660
ttttctctgt ttccagagc cgagatntta gcttttatgt agtatnaagt gaaaaantac 720
gaaantaata acattgaaga aaaaaaanaa aaaaaaaa a 761

```

&lt;210&gt; 189

&lt;211&gt; 482

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(482)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 189

```

tttttttttt ttgtccgatn ctactatttt attgcaggan gtgggggtgt atgcaacgca 60
caccgggggt atnagaagca agaagggaagg agggaggggca cagcccttg ctgagcaaca 120
aagccgcttg ctgcttctc tgtctgtctc ctggtgtagg ccatgggga gaccttcccc 180
aaggcagggg ccaccagtcc aggggtggga atacaggggg tgggagtggt gcataagaag 240
tgatagggca aggcaccccg gtacagaccc ctgggtctct gacaggtnga tttegaccag 300
gtcattgtgc cctgcccagc cacagcgtaa atctggaaaa gacagaatgc ttctcttttc 360
aatltgggt ngtcutngaa ngggcatttt tcaaatntng gctnggtctt ggtacncttg 420
gttcggccca gctcncgtc caaaantcat tcacccnctt ccaaatgtct tgcngnnc 480
cc

```

&lt;210&gt; 190

&lt;211&gt; 471

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(471)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 190

```

tttttttttt ttttbaaaca gtttttraca acaaaattta ttagaagaat agtgggtttg 60
aaaactcttg cctccagtga gaactacat acaccacatt acagctngga atgtncctca 120
aatgtctggt caaatgatcc aatggaaaca ttcaatctta cacatgcacg aaagaacaag 180
cgcttttgac atacaatgca caaaaaaaa aggggggggg gacacatgg attaaaattt 240
taagtactca tccatacat taagacacag ttctagtcca gtcaaaaate agaactgcnt 300
tgaanaattt catgtatgca atccaacraa agaacttnt ttgtgatcat gantnctcta 360
ctacatnuc cttgatcatt gccaggaacn aaagttnaa encacnngt acaaaaaaaa 420
tctgtaattn anttcaact cgtacngaa aaatntntnt tataactcc c 471

```

&lt;210&gt; 191

&lt;211&gt; 402

&lt;212&gt; DNA

<213> Homo sapien

<220>

<221> Misc\_feature

<222> (1) ... (402)

<223> n = A,T,C or G

<400> 191

gagggattga	agggtctgtt	tastgtoggn	ctgttcagcc	arcaaactcta	acaagttgct	60
gtcttccact	cactgtctgt	aagcttttta	acccagacwg	tatcttcata	aatagaacaa	120
attcttccac	agtcacatct	tctaggacct	ttttggatto	agttagtata	agctcttcca	180
cttcccttgt	taagacttca	tctggtaagg	tcttaagttt	tgtagaaagg	aattyaattg	240
ctcgttctct	aacaatgtcc	tctccttgaa	gtatttggct	gaacaaccca	cctaaagtcc	300
ctttgtgcat	ccatttttaa	tatacttcat	agggcattgk	tncaactaggt	taaattctgc	360
aagagtcato	tgtctgcaaa	agttgogtta	gtatctctgc	ca		402

<210> 192

<211> 601

<212> DNA

<213> Homo sapien

<220>

<221> Misc\_feature

<222> (1) ... (601)

<223> n = A,T,C or G

<400> 192

gagctcggat	ccaataatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaact	60
ggtctacccc	acatgggagg	agcatgcrgt	agntatataa	ggtcattucc	tgagccagac	120
atgcytyttt	gaytaccgtg	tgccaagtgc	tggtgattcl	yaacacacyt	ccatcccgyt	180
cttttgtgga	aaaactggca	cttkctctga	actaggcarga	catcacttcc	aaattccccc	240
acgagacact	tgaaagggtg	aacaaagcga	ytcttgcaat	gctttttgtc	cctccggcac	300
caattgtcaa	tactaacrcg	ctggttttgc	tccatccaat	ttgtgatctg	tgctctgga	360
tacatctcct	gcagtaactg	aagaacttct	tcttttgttt	caaaagcacc	tcttggtgcc	420
tgtcagatua	ggttcccatc	tccagctcyc	aatgtccaca	tggcatattt	waattcccaa	480
aaaacattgc	gattttaggc	tcagcaacag	caaatcctgt	tccggcattg	gctgcaagag	540
cctcagatga	gcccggccag	gccaaaggcg	gcccgtgag	ccccaccagg	agcagaagca	600
s						601

<210> 193

<211> 608

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (608)

<223> n = A,T,C or G

<400> 193

atccagccca	natccaccca	cgaagatgag	cttgttgact	gagaacctga	tgaggtract	60
ggtcccgcgt	tagcccccag	gactctccac	ctgctggaag	cggttgatgc	tgcactcytt	120
cccaacgcag	gcagmagcgg	gscgggtcaa	tgaactccay	tctgsgcttg	gggtkgacgg	180
tkaagtgcag	gaagaggtct	accacctngc	ggtccaccag	gattccccag	tgtgcgggac	240
ctgcagcga	actcctcgat	ggtcattgag	gggaagcga	tgaggcccag	ggccttgccc	300



agaaccttcc	gcctgttctc	tggugteacc	tgcagctgct	gcegetgaca	ctcgggctcg	360
gaccagcgga	caaacgggct	tgaacagccg	cacctcacgg	atgcccagtg	tgtcggctc	420
caggammjgc	accagcgtgt	ccaggtcaat	gtcgggtgaag	ccctccggcg	gtralggtgt	480
ctgcagtggt	tttgtcgatg	ttctccaggc	acaggtctgc	cagctgaggc	tcatcgaaga	540
gtcgcgcttg	cgtgagcagc	atgaaggcgt	tgtcggctcg	cagttcttct	tcagggaactc	600
cacgcaac						608

&lt;210&gt; 194

&lt;211&gt; 392

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(392)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 194

gaacggctgg	accttgcttc	gcatttgtgt	tgtctggcagg	gaataccttg	gcaaggagyt	60
cragtccgag	cagccccaga	ccgtgcgcgc	cngaagctaa	gcctgcctct	ggccttcccc	120
tccgcctcaa	tgcagaacca	gtagtgggag	cactgtgttc	agagttcaga	gtgaacactg	180
tttgatttta	cttgggaatt	tccctctgta	tatagctttt	cccaatgcta	atttccaaac	240
aacaacacca	aaataacatg	tttgctgtgt	aagttgtata	aaagtaggtg	attctgtatt	300
taaagaaant	attactgtta	catatactgc	ttgcaatttc	tytattttatt	gkctctatgg	360
aaataaatat	agttatttaa	ggttgtctant	cc			392

&lt;210&gt; 195

&lt;211&gt; 502

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(502)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 195

cccttkgagg	ggtkaggkyc	cagttycgga	gtggaagaaa	caggccaggga	gaagtgcgtg	60
ccgagctgag	gcagatgttc	ccacagtgac	cccragagcc	stgggatata	gtgtctgacc	120
cctcncaagg	aaagaccaca	ttctgggggc	atgggtctga	ggcraggacc	tagaggcacc	180
aagggaaggc	cccatccggg	ggatgttccc	cgaggaggga	gggaaggggc	tctgtgtgcc	240
cccnagagg	aaggggcccc	gagtccctgg	atcagacacc	ccttcacgtg	tatccccaca	300
caantgcaag	ctnaccceagg	tccccctcca	gtcccccttc	ataccacctg	amcyggccact	360
gscscacacc	cacccagagc	acgccacccg	ccatggggar	tgtgctcaag	gartcgcnng	420
gcarcgtgga	catctngtcc	cagaaggggg	cagaatctcc	aatagangga	ctgarcmmatt	480
gctnanaaaa	aaaaanaaaa	aa				502

&lt;210&gt; 196

&lt;211&gt; 665

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(665)

<223> n = A,T,C or G

<400> 196

ggttacttgg	tctcattgcc	accacttagt	ggatgkcat	tagaaccatt	ttgtctgccc	60
ccctctggaag	ccttgccag	agcggacttt	gtatttggtg	gggactaact	gctgaatbtt	120
wagctgtttk	gagttgaltt	gcaccactgc	acccacaaat	tcaatatgaa	aacyawttga	180
actwatbttat	tatcttgtag	aaagtalaac	aatgaaaatt	ttgttcatac	tgtatrkac	240
aagtatgatg	aaaagcaawa	gatatatatt	cttttattat	gttaaattat	gattgccatt	300
actaatcggc	aaatgttgg	gtgatggtc	tttccacagt	aatatgtgcc	tttgtaact	360
tracttgggt	attttattgt	aaatgattta	caaaattott	aatttaagar	aattggtatgt	420
watatttatt	tcattaat	ctttcctkgt	ttacgtwaat	tttgaaaaga	wtgnatgatt	480
ttttgacaga	aategatctt	gatgctgtgg	aagtatgttg	acccacatcc	ctatgagttt	540
ttcttagaht	gtataaaggt	tgtagcccat	onaacttcaa	agaaaanaat	gacacatac	600
tttgcaatca	ggctgaaag	tggcatgctn	ttctaatcc	aactttataa	actagcaaan	660
aagtg						665

<210> 197

<211> 492

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (492)

<223> n = A,T,C or G

<400> 197

ttttntttct	ttttttttgc	aggaaggatt	ccattttattg	tggatgcatt	ttcacaatat	60
atgttttattg	gagcgatcca	ttatcagtga	aaagtatcaa	gtgtttataa	natttttagg	120
aaggcagatt	cccgaaacat	gctngtngc	ttgcagtttt	acctcgtaaa	gatnacagag	180
aattatagtc	naaccagtaa	acnagggaatt	tacttttcaa	agatttaaat	ccaaactgaa	240
caaaattcta	ccctgaact	tactccatcc	aatatttga	ataanagtcc	gcagtgtatc	300
atctctttct	gaactttaga	ttttctagaa	aaatatgtaa	tgtgtatcag	gaagagctct	360
tgttcaaaag	tacaacnaag	caatgtttcc	ttaccatagg	cccttaattcc	aattttgate	420
caattcaatc	ccatcacggg	agtcactgt	acctgggaca	cttgtatttt	gttcatnctg	480
ancttgctt	aa					492

<210> 198

<211> 478

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (478)

<223> n = A,T,C or G

<400> 198

ttttttttg	atttcantct	gtannaanta	ttttcattat	gtttattana	aaatatnaa	60
tgtntccarn	acaaatcatn	ttacntnagt	aaggaggccan	ctacattgta	caacatarac	120
tgagtatatt	ttgaaaagga	caagttttaa	gtanacnaat	attgcoganc	atancacatt	180
tatacatggc	ttgattgata	tttagcacag	canaaactga	gtgagttacc	agaaaanaaat	240
netatatgtc	aatengattt	aagatacnaa	acagatctta	ttgtacatan	catctgttag	300
gagttgtggc	tttatgttta	ctgaaagtra	atgcagttcc	tgtacaaaga	gatggccgta	360
agcattctag	tacctetact	ccatgggtta	gattcgtaaa	cttatgttta	catatgttca	420

gggttagaat tgtgtttagt naanttatgg agaggtccan gagaaaaatt tgatncaa 478

<210> 199

<211> 482

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> {1}...{482}

<223> n = A,T,C or G

<400> 199

agtgaattgt	cttccncaaa	aaccccttga	tcaagtttgt	ggcaactgaca	atcagaccta	60
tgctagttcc	tgtcatctac	tcgtacttaa	atgcagactg	gaggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaatctatt	cttacttgta	cggactttga	180
agtgattcag	tttctcttcc	gaatgagaga	ctggctcag	aatactctca	tgcagcttta	240
tgaagccnac	tctyaacacg	ctggttatct	agatgagaa	ncagagaaat	aaagtcnaga	300
aaatttacct	ggangaaaag	aggctttngg	ctggggacca	tccatttgaa	ccttctctta	360
anggacttta	agaaanaact	accaratgtt	tgtngtatec	tggtagccngg	cagtttiantg	420
aactnagaen	ncaccccttt	ggaaatanant	cttgacngcn	tctgaactt	gctctctctg	480
ga						482

<210> 200

<211> 270

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> {1}...{270}

<223> n = A,T,C or G

<400> 200

gggcccgaag	tgcaactcca	gctggggcgg	tgcggagcaa	gattctgccc	gcagttggtc	60
cgactgcgac	gacggcggcg	ggcagctcg	caggtgcagc	gcyggcgcc	ggggtcttgc	120
agggtgagc	tgacgcgcga	gaggtcgtgt	cagctccccc	gaccttgacy	cagtcgggga	180
cagccgggac	agagcccggt	gaagccggga	ggcctcgggg	agcccccagg	gaagggcggc	240
ccgagagata	cgcaggtgca	ggtggccgcc				270

<210> 201

<211> 419

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> {1}...{419}

<223> n = A,T,C or G

<400> 201

tttttttttt	ttttggaatc	tactgcgagc	acagcaggtc	agcaacaagt	tlatttttga	60
gctagcaagg	taacagggta	gggcatgggt	acatgttcag	gtcaacttcc	tttgtcgtgg	120
ttgattgggt	tgtcttttat	ggggcagggg	ggggtagggg	aaancgaagc	anaantaaca	180
tggagtggtt	gcacccctcc	tttagaacct	gggttaaaaa	gcttggggca	gttcaactgg	240

tctgtgaccg	tcatttttctt	gacatcaabg	ttattagaag	tcaggatato	tttttagagag	300
tccactgtnt	ctggaggag	attagggttt	cttgcccaaa	tccanacaaa	atccacntga	360
aaaagttagg	tgatncangt	acngaatccc	gagngcatan	ttctcatant	cggtggcca	419

&lt;210&gt; 202

&lt;211&gt; 509

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(509)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 202

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tggcaattta	tccatttttt	tttcaaaatg	tctacaaant	tttaathncuc	cattatacng	120
gtatatttnc	aaaatctaaa	ntttattcaa	atctnagcca	aatcccttac	ncaaatmaa	180
tacnncaaa	aatcaaaaat	atactntctt	ttcagcaaac	tngtcccat	aaattaaaa	240
aatatatag	gctgggtgtt	tcaaggtaca	attatcttaa	caatgcaaac	atnttcnaa	300
ggaactaaaa	taaaaaaaa	cactnccgca	aaagttaaag	ggaaccaaca	attcatttta	360
caacancnc	nattataaaa	atcabatctc	aatctttagg	ggaatatata	cttcaaacng	420
ggatcttaac	tttactnca	ctttgtttat	ttttttanaa	ccattgtntt	ggtcccaaca	480
caatggnaat	ncnccnccn	tggactagt				509

&lt;210&gt; 203

&lt;211&gt; 583

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(583)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 203

tttttttttt	ttttttttga	ccccctcttt	atanaaaaca	agtkaccatt	ttattttact	60
tacacatatt	tattttctaa	ttggtattag	atatccaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttaga	tacataattc	ttaggaaata	gcttaaaatc	tgcctaaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	attttctgact	cttgtaaaac	atccaaatcc	240
attttctctg	tctttaaaat	tatctaactt	ttccattttt	tccctatttc	aagtcatttc	300
gcttctctag	cctcatttcc	tagctcttat	ctactattag	taagtggctt	ttttcctaaa	360
agggaaaaaa	ggagagana	atggcaacaa	aaacaaacat	tttatattca	tatttctacc	420
tacgttaata	aaatagcatt	ttgtgaagcc	agctcaaaag	aaggcttaga	tctttttatg	480
tccatttttag	tcaataaagc	atatacaaa	tgccagaatg	caaaaggttt	gtgaacattt	540
attcaaaagc	tatataaaga	tatttcacat	aotcatcttt	ctg		583

&lt;210&gt; 204

&lt;211&gt; 589

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(589)

<223> n = A,T,U or G

<400> 204

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	120
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	180
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	240
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	300
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	360
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	420
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	480
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	540
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	589

<210> 205

<211> 545

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(545)

<223> n = A,T,C or G

<400> 205

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	120
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	180
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	240
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	300
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	360
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	420
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	480
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	540
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	545

<210> 206

<211> 487

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(487)

<223> n = A,T,C or G

<400> 206

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	120
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	180
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	240
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	300
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	360
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	420
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	480

ttcamaa

487

&lt;210&gt; 207

&lt;211&gt; 332

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(332)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 207

tgaattggct aagaagctgc atttttanaa clagcaactc ttatttcttc cctttaaaaa	60
lacataquut taatcccaa atccttctta aagacctgac agcttgagaa ggtcactact	120
gcatttatag gaccttctg tggttctgct gttacttttg aantctgaca atccttgana	180
atctttgcat gcagggagg taaaaggtat tggattttca cagaggana acacagacca	240
gaaatgaagg ggcacaggct actgagcttg tccactggag ggtcactggg tgggacatgg	300
aaaagaaggc agcctaggcc ctggggaguc ca	332

&lt;210&gt; 208

&lt;211&gt; 524

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(524)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 208

agggcgtggt gcagaggcg ttactgtttt gtctcagtaa caataaatac aaaaagactg	60
gttgtgttcc ggcacacac aacacagag ttgatttctc ttgtgtgcag agtgaactgat	120
tttaaggac atggagcttg tcacaatgtc acaatgtcac agtgtgaagg gcacactcac	180
tcccgctga ttacattta gcaacacaca atagctcatg agtccatart tgaataact	240
tttggcagaa tectttttga aacttgacga tgataactaa gatccagat atttcccaa	300
gtaaatagaa gtgggtcata atattaatta cctgttcaca tgggttcca tttaacagtc	360
atgagccacg acactgacat caactaagg ccacttagac tctccaccac cagtctgtcc	420
tgctatcaga caggaggctg tcaccttgac caattctca ccagtcact atctatcna	480
aaaccattac ctgactcact tgggtaatg caccacttg gtga	524

&lt;210&gt; 209

&lt;211&gt; 159

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 209

gggtgaggaa atccagagtt gccatggaga aaattccagt gtcagcattc ttgtctcttg	60
tggcctctc ctacactctg gccagagata ccacagtaa accctggagcc aaaaaggaca	120
caaaggactc tgaacacaaa ctgcccaga cctctuca	159

&lt;210&gt; 210

&lt;211&gt; 256

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(256)  
 <223> n = A,T,C or G

<400> 210  
 actccctggc agacaaaggu agaggagaga gctctgttct ttctgtgttg ttgaactgcc 60  
 actgaatttc ttccacttg gactattaca tggcatttga gggactaatg gaaaaacata 120  
 tggggagatt ttanccaatt tangtntgt aatggggaga ctggggcagg cggggagagat 180  
 ttgaggggtg naaatgggan ggctgggttg tcanatgaac agggacatag gaggtaggca 240  
 ccaggatgct aaatca 256

<210> 211  
 <211> 264  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(264)  
 <223> n = A,T,C or G

<400> 211  
 acattgtttt tttagataa agcattgaga gagctctctt taacgtgaca caatggaagg 60  
 actggaacac ataccacat cttagtctct agggataatt ttctgataaa gtcttgctgt 120  
 atattcaagc acatagtcta tatattttc agtccatgt ttatagccta gtttaggaga 180  
 gggggagatac attcngaaag aggaactgaa gaaatactca agtnggaaaa cagaaaaaga 240  
 aaaaaggag caaatgagaa gcct 264

<210> 212  
 <211> 328  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(328)  
 <223> n = A,T,C or G

<400> 212  
 acccaaaaat ccaatgttga atatttggct tcattatttc canattcttt gattgtcaaa 60  
 ggatttaatg ttgtctcagc ttggycaatt cagttaggac ctaaggatgc cggcgggag 120  
 gtttatatat gcagcaacaa tattcaagcg agaacaragg ttattgaatt tgcgcgctcg 180  
 tttaatttca ttccacttga ctggggatcc ttatcatcag ccagagagat tgaaatttta 240  
 cccctacnac tctttactct ctgganaggg ccagtgggtg tagctataag cttaggcaca 300  
 ttttttttc ctttattctt ttgtcaga 328

<210> 213  
 <211> 250  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature

&lt;222&gt; {1}... (250)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 213

acttatgagc agagcgacat atccnagtgt agactgaata aaactgaatt ctctccagtt	60
taaagcattg ctcaactgaag gcatagaagt gaatgccagg agggaaagta agccaaggct	120
cattatgcca aagganatat acatttcaat tctccaaact tcttctcat tccaagagtt	180
ttcaatattt gcctgaacct gctgataaag catgttaana sacaaatata tctctnacct	240
tctcatcggt	250

&lt;210&gt; 214

&lt;211&gt; 444

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}... (444)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 214

accagagtc caatgctgaa tatttggtct cattattccc agatcttttg attgtcaaag	60
gatttaattg tctctcagct tgggcacttc agttaggacc taaggatgac agccggcagg	120
tttatatatg cagcaacaa atccaagcgc gacaacagggt tattgaactt gcccgccagt	180
tgaatttcac tccctttgac ttgggatcct tatcatcagc canagagatt gaaaatttac	240
ccctacgact ctttactctc tggagagggc cagtgtgtgt agctataagc ttggccacat	300
tttttttct tttatttcct tgtcagagat gogatttate calatgotan aaaccacacg	360
agtgcctttt acaaaattcc tataganatt gtgaataaa ccttaacctat agttgccatt	420
actttgctct cctaatata cctc	444

&lt;210&gt; 215

&lt;211&gt; 366

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}... (366)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 215

acttatgagc agagcgacat atccaagtgt aaactgaata aaactgaatt ctctccagtt	60
taaagcattg ctcaactgaag gcatagaagt gaatgccagg agggaaagta agccaaggct	120
cattatgcca aagganatat acatttcaat tctccaaact tcttctcat tccaagagtt	180
ttcaatattt gcctgaacct gctgataaag catgttgaga sacaaatata tctctgaacct	240
tctcatcggt aagcagaggc ttagggcaac atggaccata gcgaanaaa aaactagtaa	300
tccaagctgt tttctacact gtaaccagggt tccaaccaa ggtgggaatc tcttatactt	360
ggtgcc	366

&lt;210&gt; 216

&lt;211&gt; 260

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;



<221> misc\_feature  
 <222> (1)...(260)  
 <223> n = A,T,C or G

<400> 216

ctgtataaac	agaaatccac	tgcangaggg	agggccgggc	caggagaatc	tccgtctgtc	60
caayacaggg	gcctaaggag	ggctccacaa	ctgctnntaa	gggctnttc	attcttttat	120
taataaaaag	lnnaaaaggc	ctctctctca	cttttttccc	ttnggctgga	aaatttaaaa	180
atcaaaatt	tctnaagtt	ntcaagctat	catatatact	ntatcctgaa	aaagcaaat	240
aattctccct	tccctccttt					260

<210> 217  
 <211> 262  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(262)  
 <223> n = A,T,C or G

<400> 217

acctaagtg	gtangtttan	aaatgttata	atttcaggaa	naggaacgca	tataattgta	60
tcttgctat	aattttctat	tttaataagg	aaatagcaaa	ttggggtggg	gggaatgtag	120
ggcatctac	agtttgagca	aaatgcaatt	aaatgtggaa	ggacagacct	gaaaaatttt	180
atgaataatc	tgtatgatta	tctgtctctc	gagtagattt	ataattagcc	acttacccta	240
atctccttca	tgtctgtana	gt				262

<210> 218  
 <211> 205  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(205)  
 <223> n = A,T,C or G

<400> 218

accaaggtgg	tgcattaccg	gaantggatc	aangacarca	tngtggccaa	ccctgagca	60
ccctatcaa	ctcccttttg	tgttaactt	ggaaccttgg	aatgacrag	gccaagartc	120
aggcctcccc	agttctactg	acctttgtcc	ttangtntna	ngtccaggg	tgttaggaaa	180
anatacagc	agacacaggt	gtana				205

<210> 219  
 <211> 114  
 <212> DNA  
 <213> Homo sapien

<400> 219

tactgttttg	tctcagtaac	aataaataca	aaaagartgg	ttgtgttccg	gccccatcca	60
accangaagt	tgattttctt	tgtgtgcaga	gtgactgatt	taaaaggaca	tggg	114

<210> 220  
 <211> 93

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 220

actagccagc acaaaaggca gggtagcctg aattgcttct tgcctcttbaa atttctctta 60  
 aaataagcat ttagtgcctc gtcctactct agt 93

&lt;210&gt; 221

&lt;211&gt; 167

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{167}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 221

actangtgca ggtgcgcaca aatatttgtc gatattcctt tcactcttga ttccatgagg 60  
 tcttttgcgc agcctgtggc tctactgtag taagtctctg ctgatgagga gccagatgc 120  
 ccccaactac ctctcctgac gctcccaana aatcaccaca cctctgt 167

&lt;210&gt; 222

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 222

agggcgtggt gcggaggcgc gtactgacct cattagtagg aggatgcatt ctggcaccac 60  
 gttcttcacc tgcaccccaa tccttaaaag gccatctctc ataaagtcaa caacagataa 120  
 atgtttgctg aattaaagga tggatgaaaa aaattaataa tgaatttttg cataatccaa 180  
 ttttctcttt tatatttcta gaagaagttr ctttgagcct attagatccc ggggaatcttt 240  
 taggtgagca tgattagaga gcttgtaggl tgcctttaca tatctctggc atatttgagt 300  
 ctcttatcaa aacaatagat tggtaaaagt ggtattattg cattgataag t 351

&lt;210&gt; 223

&lt;211&gt; 383

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{383}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 223

aaacacaca aacaaaaaaa acattcttc attcagaaaa attatcttag ggaactgatat 60  
 tggtaattat ggtcaattta atwrtttkt ggggcatttc cttaacattgt ctgacacga 120  
 ttaaaatgtc tgggcacaaa ttttgatttc tatcttgaga ctctctatca aagtaatgc 180  
 tgcacaagga agtctaagga attagttagt tttccmtcac ttgtttggag tgtgctatc 240  
 taaaagattt tgatttctct gaatgacaat tatattttaa ctttggtagg ggaaanagtt 300  
 ataggaccac agtcttcact tctgatactt gtaaatteat ctttatttgc atttattttg 360  
 accattaagc tatatgttta aaa 383

&lt;210&gt; 224

<211> 320  
 <212> DNA  
 <213> Homo sapien

<400> 224

cccttgagg	cttcttgta	gaaatagta	cagttacac	caataggaa	aacaaaaa	60
aaaagtgtg	gacattgtg	tagggagtgt	gtacccctta	ctccccctc	aaaaaaat	120
ggatavctg	ttaaaggata	raagggaat	attttatct	atgttctaa	agaggaggaa	180
gagaaaaac	tacttctct	aatggaagc	ccctaaagg	gctttgata	tgaaggcac	240
aatgtggcc	gtccatctc	ctttaragt	gcattgact	gacacggta	ctgttgagt	300
tttaractm	gcattgtgac					320

<210> 225  
 <211> 1214  
 <212> DNA  
 <213> Homo sapien

<400> 225

gaggactga	gccccactc	gaagccctgg	caggcggcac	tggtcatgg	aaargattg	60
ttctgtctg	gggtctctg	gcattccgc	tggtgtctgt	cagccgcaca	ctgtttccag	120
actctctac	ccatcggtg	gggtctgac	agtcctgag	ccgaccaaga	gccaggggagc	180
cagatgggtg	aggtcagcc	ctcgtacgg	caucagagt	acaaacagac	cttgcctcgt	240
acgacctca	tgtctatca	gttggaagaa	tcctgtctc	agtctgacac	ctcctggagc	300
atragcttg	cttcgagtg	ccctaccgg	gggaactct	gcctcgttc	tggctgggtc	360
ctgctggcg	acggcagaat	gcctaccgt	ctgcagtgc	tgaacgtgt	gggtggtgt	420
gaggaggtc	gcagttaagt	ctatgacct	ctgtacacc	ccagratgt	ctgcgctggc	480
ggaggggcaa	uacagaagg	ctctgcaac	ggtgactct	gggggcccc	gatctgcac	540
gggtacttg	agggcttgt	gtttttcga	aaagccccg	gtggccaagt	tygcgtgcca	600
ggtgtctca	ccaaacctc	caaattcac	gagtggatg	agaaaacgt	ccaggccagt	660
tactctctg	gactgggac	ccatgaatt	gaccccaaa	tacatctgc	gggaaggatt	720
caggaatac	tgttccagc	ccctctccc	tcagggccag	gagtcaggc	ccccagcccc	780
tcttccctc	aaccaagggt	acagatccc	agccccctc	ccctcagac	caggagtcca	840
gacccccag	ccctctctc	ctcagaccca	ggagtccag	ccctctccc	tcagacccag	900
ggtccagac	ccccagccc	ctcttccct	agacccagg	gtccaggccc	ccaaacctc	960
ctccctcaga	ctcagaggt	caagccccca	acccctctt	ccctcagccc	agagggtccg	1020
gtccagccc	ctctctctc	agacccagc	gtccaatgc	acctagactc	tccctgtaca	1080
cagtgcctc	ttgtggcag	ttgacccaac	cttaccagt	ggttttctat	tttttgtccc	1140
tttccctctg	atcagaaat	aaagtctag	agaagcgcac	uuuuuuuuu	uuuuuuuuu	1200
aaaaaaaaa	aaaa					1214

<210> 226  
 <211> 119  
 <212> DNA  
 <213> Homo sapien

<400> 226

acccagtatg	tgcagggaga	cggaacccca	tgtgacagcc	cactccacca	gggttcccaa	60
agaacctggc	ccagtctata	tcattcatcc	tgaagtgagg	aataatcarg	ataaccagt	119

<210> 227  
 <211> 818  
 <212> DNA  
 <213> Homo sapien

<400> 227

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acggacgggt	cttagcaca	tttgtgaat	cttgttaraa	ccgggtcttg	caggggagat	180
attttctct	ctctggagga	aaggtggtga	ttgaragga	gggagacagt	gacaaaggct	240
gagaagggc	cgctcggcct	tctctgaacc	aggatggaac	ggcagacccc	tgaaaaagaa	300
gcttctccc	ttccaatcag	ccaattctga	gaacccccat	ctaacttct	actggaaaag	360
agggcctcct	caggagcagt	ccaagagbtt	tcaggataa	cgtgacaaat	accatctaga	420
ggaaagggtg	cacctctagg	ayagaagcag	agagcttaac	tctggctcgt	ttcagagaca	480
acctgctggc	tgtcttggga	tgcgcccagc	ctttgagagg	ccactacccc	atgaacttct	540
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gacaggtctt	gcctcgaagc	cggctgaggg	cagcaaccac	tctcctcccc	tttctcagcg	660
aaagccattc	ccacaaatcc	agacatatac	atgaagcaac	gagaccctaa	cagtttggct	720
caagaggata	tgaggactgt	ctcagccctg	ctttgggctg	accccatgca	cacacacaa	780
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<210> 228

<211> 744

<212> DNA

<213> Homo sapien

<400> 228

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tcgtggccga	cctggcctct	cctggcctgt	ttcttaagat	ggggaagtcc	atttcaatgg	180
taggaaaagt	ggcttcgtac	atagaagag	cagtcactgt	ggaactacca	aatggcgaga	240
tgtctgggtg	acattggggg	gctttggggt	aaaagattta	tgagccaaat	attctctggc	300
accagattct	aggccagttt	gttcacatga	agcttttccc	acagcagtrc	ccctctgcag	360
gctggcagct	gaatgggttg	ccggtgggtc	tatggcaaga	tcacactgag	atgatgggt	420
gagaagggta	ggatgcttgt	ctagtgttct	tagctgtcac	gttgggtcct	tcaggtttgg	480
ccagacgggt	ttggccactc	ccttctaaaa	ccagggcgcc	ctcctgggtga	cagtgaaccg	540
ccgtgggtat	ccttggccca	ttccagcagt	cccagttatg	catttcaagt	ttggggtttg	600
ttctttctgt	taatgttctt	ctgtgttgtc	agctgtcttc	atttccctggg	ctaaagcagc	660
ttgggagata	tggaaccagag	atccactcct	taagaaccag	tggcyaaga	cactttcttt	720
cttcaactct	aagtagctgg	tggt				744

<210> 229

<211> 300

<212> DNA

<213> Homo sapien

<400> 229

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cattacacat	cgaaataaaa	gaaaggtggc	agacttgccc	acggccaggc	tgacatgtgc	120
tgcagggttg	ttgtttttta	attattattg	ttagaagagt	cacccacagt	ccctgttaat	180
ttgtatgtga	cagccaactc	tgayaaaggt	ctatttttcc	acctgcagag	gatccagtct	240
cactaggctc	ctccttgccc	tcacactgga	gtctccgcca	gtgtgggtgc	ccactgaact	300

<210> 230

<211> 301

<212> DNA

<213> Homo sapien

<400> 230

cagcagaaca	aatacaata	tgagaggtgc	aaagatutca	taaaatctat	actgagggaat	60
gagcgacagt	tcaggaggga	gaagcttcca	gagcagctca	agcaagctga	ggagctcagg	120

caatataaag tccctggttca cactcaggga cggagagctga cccagtttaag ggggaagttg 180  
 cgggaaggga gagatgccct cctctcattg aatgagcatc tccaggccct cctcactccg 240  
 gatgaaccgg acaagtcaca ggggcaggac ctccaaagaa cagacctcgg ccguyaccac 300  
 g 301

<210> 231  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 231  
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 cagggaactcc aagtcacat ccttggcaac tggggacttg cgcaggttag ccttgaggat 120  
 ggcaacacgg gacttctcat caggaagtgg gatgtagatg agctgatcaa gacggccagg 180  
 tctgaggatg guaggatcaa tgatgtcagg ccggttggtt ccgccaatga tgaacacatt 240  
 tttttttgtg gacatgccat ccatttctgt caggatctgg ttgatgactc ggtcagcagc 300  
 c 301

<210> 232  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 232  
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 agaagagtc atctgtctg agggagagac agagaactct gggctccgtc gtccctgtcc 180  
 cgtgctgtac caagtgtctg tggcagcctg ttacctgttc ccaactgaaa tctggctaat 240  
 gctctgtgt atcattctg attctgacaa tcaatcaatc atgggctag agcactgact 300  
 g 301

<210> 233  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 233  
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 cctagaagtt acagagcatc tagctggtgc gctggcacc ctggcctcac acagactccc 180  
 gagttagctg gactacagga acacagtcac tgaagcagga cctgttagca attctatgag 240  
 tacaattaa cctgagatga gtagagactt tattgagaaa gcaagagaaa atcctatcaa 300  
 c 301

<210> 234  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 234  
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 cattttatcc atcatgatgc ttctttttgt ttctttttt cgttttttt tttttctttt 120  
 tcaatttcag caacatactt ctcaatttct tcaaggattt aaatctttgg ggattgatct 180  
 cgcctcatga cagcaagttc aatgtttttg ccacttgact gaaccacttc caggagtgcc 240  
 ttgatcccca gcttaatggt cagatcatct gcttcaatgg ctctcgtccgl atagttcttc 300

t

301

<210> 235  
 <211> 283  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 235

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aattccctca tcttctaggg aatcatttac caggtttggg gaggtttcag acagctcagg	120
tgccttcact aatgtctctg aacttctgtc cctctttgtt catggatagt ccaataaata	180
atgttatctt tgaactgatg ctcataggag agaataaag aactctgagt gatatacaca	240
ttagggattc aagaaatat tagatttaag ctccactgg tca	283

<210> 236  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 236

aggtcctcca ccaactgcct gaagcacggt taaaattggg aagaagtata gtgcagcata	60
aatactttta aatcgatcag atttccctaa ccacatgca atctcttcca ccagaagagg	120
tgggagcagc atcattaata ccaagcagaa tgcgtaatag tcaaatataa tggatatag	180
tgggtagacg gtttcatgag tacagtgtac tgtggtatcg taatctggac ttgggttgta	240
aagcatcgtg taccagtcag aaagcatcna tactcgacat gaacgaatat aagaacacc	300
a	301

<210> 237  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 237

cagtggtagt ggtggtggac gtggcgttgg tctggttccc ttttttgggt ccggtcacaa	60
actcaatttt tgttcgctcc tttttggcct ttccaattt gteratctca attttctggg	120
ccttggttaa tgcctcatag taggagtcct cagaacagcc atggggatca aacatatect	180
ttgggtagt ggtgccaaagc tcttcaatgg cacagaatgg atcagcttct cgtaaatcta	240
gggttcagaa attctttctt cctttggata atgtagtcca tatccattcc ctcttttate	300
t	301

<210> 238  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 238

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gttcacagtt cagccccctg ctccagaaac caacgggccg gctaaggaga ggaggaggca	120
ccttgagact tccggagtcg aggtcttcca gggttcccca gccatcaat ctttttctgc	180
accccttgc tgggaagcag ctccctgggg ggtgggaatg ggtgactaga agggatttca	240
gtgtgggacc cagggtctgt tccrcacagt agggagtgga agggatgact aatttcttta	300
t	301

<210> 239  
 <211> 239

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 239

ataagcagct agggatttct ttatttagta atgtcctaac ataaaagttc acataactgc	60
ttctgtctaa ccatgatact gagctttgtg acacccaga aataactaag agaaggcnaa	120
cataatcct tagagatcaa gaaacattta cacagttcaa ctgttcaaaa atagctcacc	180
attcagcccag tsagtagagt gtgaatgcca gcatacacag tatacaggtc cttcaygga	239

&lt;210&gt; 240

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 240

ggtcttaattg aagcagcagc ttccacattt taacgcaggt ttacgggtgat actgtctttt	60
gggatctgcc ctccagtggg accttttbaag gaagaggtgg gcccaagcta agtcccat	120
gctgggtgag ccagatgact tctgttccct ggtcaccttc ttcaatgggg cgaatggggg	180
ctgccaggtt tttaaaatca tgccttcact tgagccacac ggtcccttca cctcctcac	240
gctgtgggtg tcttttgatg aaaataccca ctttgttggc cttctgaag ctataatgtc	300

&lt;210&gt; 241

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 241

gaggtcttgt gctgaggtct ctgggtctgg aagaggagtt ctgtggagct ggaagccaga	60
cctcttttga ggaacttca gcagctatgt tgggtgtctt gagggaatgc aacagggtg	120
ctcctccatg tattggaaaa ctgcaactg gactraactg gaaggagtg ctgctgccag	180
tgtgagaaac cagcctgagg tgacagaaac ggaagcaaac aggaacagcc agtcttttct	240
tctctctctt gtcatacggc ctctctcaag cttctttctt tgtcaggggc ctaaaaggga	300
g	301

&lt;210&gt; 242

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 242

ccgaggttct gggatgcac caatcactct gtttccagtg acttttatca ccatacaatt	60
tgtggcattt cctcattttc tacattgtag aatcangagt gtaataaat gtatctcgat	120
gtcttcaaga atatatcatt cctttttcac tgaacccat tcaaatata agtcaagaac	180
cttaatatca acaatatat caagcaaac ggaaggcaga ataactacca taatttagta	240
taagtaccca aagttttata aatcaaaaag cctantgata accattttta gaattcaatc	300
a	301

&lt;210&gt; 243

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 243

aggtaagtc cagttrggag ctcaaaagat ctggtatgag cataggctca tgcacgaac	60
ggtggcccaa gctatgaac cagagggagg ctctatctgg gctgtazaa actatgatgg	120

tgacgtgcag tcggactctg tggcccaagg gtatggctct ctgggcatag taccacagct 180  
 gctggtttgt ccagatggca agacagtga agcagaggct gccacggga ctgtaacccg 240  
 tcaactaccg atgttccaga aaggacagga gaagtcacac aatccattg ctccatttt 300  
 t 301

<210> 244  
 <211> 300  
 <212> DNA  
 <213> Homo sapien

<400> 244  
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 gtcattgcatt cccatttgcg ggatctgtct gtgcacatgc ctctgtagag agcagcattc 120  
 ccaggagacct tggaaacagt tgacactgta aggtgcttgc tccccaagac acatccctaa 180  
 aggtgttgtg atggtgaaaa cgtcttccct ctttatttgc cctctttatt tatgtgaaca 240  
 actgttttgc ttttgtgtat cttttttaa ctgtaaagt caattgtga aatgaatctc 300

<210> 245  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 245  
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 tatatactta gataaaaaat gaggtgcatt actatccatt gaaatcatgc tcttagaatt 120  
 aaggccagga gatattgtca ttaatgtara ctccaggaca cttagagtata gcagccctat 180  
 gttttcaaa agcagagatg caattaaata ttgtttagca tcaaaaaggc cactcaatac 240  
 agctantaaa atgaagacc taatttctaa agcaattctt tataatttcc aaagtittaa 300  
 g 301

<210> 246  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 246  
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 acctgggctt attttaaaga actatttcta gctcagattg gtcttctat ggctaaaata 120  
 agtgccttct gtgaanatta aataaaacag ttaattcaaa gccttgatat atgttaccac 180  
 taacaatcat actaaatata ttttgaagta caaagtttga catgctctaa agtgacaacc 240  
 caaatgtgtc ttacaaacaa cgttctaac aggtatgct ttactactac aatgagana 300  
 c 301

<210> 247  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 247  
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 gctaagagg scgactggcg gtagcacaac caaggaagge aaggttgttt cccacacgcc 120  
 gtgtcctgtg ttccgggtgc acacacaatc ctcatgggaa caggatcac catgcgctgc 180  
 ccttgatgat caagattggg gctcaagtgg attaagggag gcaagttctg ggttctttgc 240  
 cttttcaaac catgaagtca ggtctgtat ccttcttct ctaactgat attctaacta 300  
 a 301



<210> 248  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 248  
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 acaggaagaa agtgggttgg aagacagccc aaggaataaa agcagattaa attgtatcag 180  
 gtacattcca gctgtttggc aartccataa aaacattcca gattttaate ccgaatttag 240  
 ctaatgagac tggatttttg tttttttatgt tgtgtgtcgc agagctaaaa actcagttcc 300  
 c 301

<210> 249  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 249  
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 ccttgargct gctgttctcc cggaaaacc cgaccgacct cggcgatctc cgtcccgccc 120  
 ccagggagac acagcagtga ctacagagctg gtcgcacact gtgctcctt cctcaccgac 180  
 catcgtaatg aathttttg aaaaattaatt ccaccatcct ttcagattct ggatggaaag 240  
 actgaatctt tgactcagaa ttgtttgctg aaaaagatga tgtgacttct ttactcattt 300  
 a 301

<210> 250  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 250  
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 cttatcttta ttggcttgat aaacataatt atttctaaca ctacttatt tccagttgac 120  
 cataagcaca ccagctacttt tctctggctg gaatagttaa ctaaagtatg gtacatctac 180  
 ctaaaagact actatgtgga ataatacata ctaatgaugt attacatgat ttacagacta 240  
 caataaaacc aaacatgctt ataurattaa gaaaaacaat aaagatacat gattgaaacc 300  
 a 301

<210> 251  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 251  
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 ggcaggggtc ctcaaaaatg ccactgtcac tgcaggaaa tcttcttgag cagtacacct 180  
 cattgggac aatgaaaagc ttcaagaaat ctccaggtc acctctctga aggcceggaa 240  
 cctctggagg ggggcagtgg aatcccagct ccaggatgga tctgtctgaa aagatatcct 300  
 c 301

<210> 252  
 <211> 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 252

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ctttctacat tgtagaatca agagtgttaa taaatgtata tggatgtctt caagaatata      120
tcattctttt ttcactagga acccattcaa aatataagtc aagaatetta atatcaacaa      180
atatatcaag caacttggaa ggcagaataa ctaccataat ctagtataag taccacaaagt      240
tttatcaatc aaaagcccta atgataacra ttttttagat tcaatcatca ctgtagantc      300

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a

302

&lt;210&gt; 253

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 253

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ttccctaaga agatgttact ttgttgggtt ttgttccccc tccatctcga ttctcgtacc      60
caactaanna aaaaaaataa agaaaaaatg tgcctgcgtc tgaanaataa ctctcttagct      120
tggctctgat tctttcagac cttaaaatat aaacttgttt cacaagcttt aatccatgtg      180
gatttttttt cttagagAAC cccaaacacat aaaaggagca agtcggactg aatacctgtt      240
tccatagtgc ccacagggta ttcctcacat ttctccata ggaaaatgct tcttcccaag      300

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g

301

&lt;210&gt; 254

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 254

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cgctgcgctt ttccttggg ggaaggggcaa ggcagaggg ggtccaagtg cagcacgagg      60
aacttgacca attcctttga agcgggtggg ttaaaccttg taaatgggaa caaatccgc      120
craatctct tcatcttacc ctggtagact cctgactgta gaattttttg gttgaaacaa      180
gaaaaaataa agcttttggg cttttcaagg ttgcttaaca ggtactgaaa gactggcctc      240
acttaaatg agccaggaaa agctgcagat ttattaatgg gctgtgttagt gtgcagtgc      300

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t

302

&lt;210&gt; 255

&lt;211&gt; 302

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 255

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agctttttct tttttttttt tttttttttt ttcattaaaa aatagtgtc tttattataa      60
attactgaan tgtttttttt ctgaatataa atataaatat gtgcaaagt tgaacttggat      120
tgggattttt ttgagttctt caagcatctc ctattacct caaggggctg agtagggggg      180
aggaaaaagg actggagggtg gaatcttctt aaaaaacaag agtgattgag gcagattgta      240
aacattatta aaaaacaaga aacaaacaaa aaatatagaga aaaaaaccac cccaacacac      300

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aa

302

&lt;210&gt; 256

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)... (301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 256

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gttcagaaa acattgaagg tggottccca aagltctaact agggatarcc cctctagcct      60
aggaccctcc tccccacacc tcaatccacc aaaccatcra taatgcaccc agataggccc      120
acccccaaaa gacctggacac cttgagcaca cagttatgac caggacagac tcatctctat      180
aggcaaatag ctgctggcaa actggcatca cctggcttctt ggggatgggg gggcaagtgc      240
gtggcctctc ggcctgggta graagaacat ttagggtagg cctaagttan tctgtttagt      300
t

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&lt;210&gt; 257

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 257

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gttgtggagg aactctggct tgcctattaa gtccactga ttttcaactat cccctgaatt      60
tccccactta ttttgtctt tcaatatcc aggccttaga agaggctctac ctgcctccag      120
tcttacctag tccagtctac cccctggagt tagaatggcc atcctgaagt gaaaagtaat      180
gtcacattac tcccttcagt gatttcttct agnagtgcga atccctgaat gccaccaaga      240
tcttaattct cactcttcta atcttatctc ttgactcct ctttaccacc gagaaggctc      300
c

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&lt;210&gt; 258

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)... (301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 258

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cagragtagt agatgccgta tgcagracg cccagcactc ccaggatcag caccagcacc      60
aggggcccag ccaccaggcg cagaagcaag ataaccagta ggctcaagac cagagccacc      120
cccagggcag caagaaacca ataccaggac tgggcaaaat ctccaagat cttaaccatg      180
atgtctcggg cattgaggct gtcaataana cgtgatccc ctgctgtatg gtggtgtcat      240
tggtgatccc tgggagcgcc ggtggagtaa cgttggctcc tggaaagcag cgcccaaac      300
t

```

&lt;210&gt; 259

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)... (301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 259

tcatatatagc	aaacaaatgc	agactangcc	tcaaggcagcg	actaaaggac	atctcttggg	60
grgtcctgaa	gtgatttggg	cccctgaggg	cagacacctc	agtaggaatc	ccagtgggaa	120
gcaaagccat	aaggaagccc	aggatccctt	gtgatcagga	agtgggcccag	gaaggtctgt	180
tccagctcac	atctcatctg	catgcagcac	ggaccgcatg	cgcccactgg	gtcttggcct	240
ccctcccatc	ttctcaagca	gtgtccttgt	tgagccattt	gcataccttg	ctccaggtag	300
c						301

<210> 260

211 301

«212» DNA

<213> Homo sapien

<900> 260

ttttttttct	ccctaaggaa	aaagcaggaa	caagtctcat	aaaaccatct	asgcactggt	60
aagggtgtct	aacttgaaca	agatcaggag	tcantgggtt	acaagtata	attgaatgan	120
agaactgtac	cagccacagt	tggccatttc	atgccaatgg	cagcacaaca	caggattaac	180
tagggcaca	taaatcaagt	tgtggaagcc	ctgataagtg	cttaataaac	agactgattc	240
actgagacat	cagtacctgc	ccgggcggcc	gtctgagccg	aattctgcag	atatccatca	300
c						360

<210> 261

<211> 301

&lt;212&gt; DNA

<213> Homo sapien

400, 251

aaatattcga	gcaaatcccg	taactaatgt	gtctccataa	aaggctttga	actcagtgaa	60
tctgcttcca	tccacgattc	tagcaatgac	ctctcggaca	tccaaagctcc	tcttaaggtt	120
agraccaact	attccatcac	attcatcagc	aggaatataa	ggctcttcag	aaggttcaat	180
ggtgacatcc	aattttctct	gataatttag	attcttcaca	acottctcag	ttaagtgaag	240
ggcatgatga	tcattccaaag	cccagtggtc	acttactcca	gactttctgc	aatgaagatc	300
a						301

«210» 262

4211 301

«212» DNA

<213> Homo sapien

4900, 262

gaggagagcc	tgttacagca	tttctaagca	cagaatactc	caggagtatt	tgttaattgtc	60
tgtgagcttc	ttgcgcgaag	ctctctcagaa	atttanaaag	atgcaaatcc	ctgagtcacc	120
cttagacttc	ctaaaccaga	tcctctcggg	ctggaaacctg	gcactctgca	tttghtaatga	180
gggctttctg	gtgcacacct	aatttttgtgc	atctttgcc	taaatctctg	attagtgcct	240
catcattacc	cccacattat	aatgggatag	attcagagca	gatactctcc	agcaagaagt	300
c						301

4210 263

<211> 301

**<212> DNA**

<213> Homo sapien

**«220»**

<221> misc feature

<222> (1) ... (301)

<223> n - A.T.C or G

&lt;400&gt; 263

tttagcttgt ggtaaatgac tcacaaaact gatttttaaa tcaagttaat gtgaattttg	60
aaaactacta cttaactcta attcacaata acaatggcat taaggtttga cttaggttgg	120
ttcttagtat tatttatggc aatataggtc ttaccacttg caataaacty gccacatcat	180
taatgaotga ctccccagta aggtctctta aggggttaagt angaggatcc acaggatttg	240
agatgctaag gccccagaga tcgtttgac caacctctt attttcagag gggaaaatgg	300
g	301

&lt;210&gt; 264

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 264

aaagacgtta aaccactcta ctaccacttg tggaaacttc aaagggtaaa tgacaaaacc	60
aatgaatgac tctaaaaaca atatttaccat ttaatggfct gtagacata aaaaaacaag	120
gtggatagat ctagaattgt aacattttca gaaaacata scatttgaca gatgggaaag	180
ctcaattata gatgcgaagt tataaactaa ctactatagt agtaaagaaa tacattttac	240
acctttcata taatttact atcttggctt gagggactcc acaaaatgta tcacgtgcat	300
a	301

&lt;210&gt; 265

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 265

tgcceaagtt atgtgttaagt gtatccgcac ccagaggtaa auctacacty tcatctttgt	60
cttcttgtga cgcagtattt ctctctctgg gagaagccgg gaagctttct cctggctcta	120
catattcttg gaagtctcta atcaactttt gtccatttg ttctatttct tcaggaggga	180
tttcagttt gtcaacatgt tctctaaaca caattgcca ttctcgtaaa gaatrcaaag	240
cagtcraagg ctttgacatg tcaacaacca gcataactag agtatecttc agagatacgg	300
c	301

&lt;210&gt; 266

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 266

taccgtcttg ctttctctcc atccaggcca tctgcgaatc taratgggtc ctctatttcg	60
acaccagatc actcttttct ctaccacag gcttgctatg agcaagagac acaacctct	120
ctctctcttg ttccagcttc ttttctgtt ctccccacc cttaagtctt attctgggg	180
atagagacac caataccat aacctctctc ctAagctcc ctataaccca gggtgacag	240
cacagactcc tgacaactgg taaggccaat gaactgggag cccacagctg gctgtgctg	300
a	301

&lt;210&gt; 267

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 267

aaagagcaca ggccagctca gcccgccctg gccatctaga cttagcctgg ctccatgggg	60
---	----

```

gttttcagtg ctgggtccat ccaggaaaag ctcacctaga ccttctgagg ctgaatcttc      120
atcctcacag gcagcttctg agagcctgat attcctagcc ttgatggctt ggagtaaaagc      180
ctcattctga ttctctctct tcttttcttt caagttggct tctctcacat cctctgttc      240
aattcgcttc agcttgtctg ctttagccct ccttccaga agcttcttct ctttggcatt      300
t

```

<210> 268  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

```

<400> 268
aatgtctcac tcaactaatt cccagctac cgtggcctaa ttctgggagt tttcttctta      60
gatcttggga gagctggctt ttctaggag aaggaggag gagagatga accttggatc      120
tcgaagaggga agtctaattg aagtaattag tcaacggctc ttgttttagac tcttgggata      180
tgctgggtgg ctacgtgagc ctttttggag aaagcaagta ttattcttaa ggagtaacca      240
cttcccatgg ttctacttct taccatcatc aattgtatat catgtattct ttggagaact      300
a

```

<210> 269  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

```

<400> 269
taaceatata cartagctat ctttttaact gttcatcatt agcaccaatg aagattcaat      60
aaaattacct ttattcacac atctaaaaac aattctgcaa attcttagtg aagtttaact      120
atagtcacag acctaaata ttacatttgt ttctatgtc tactgaaat aagtttacta      180
ctttcttgga tttcttttac aaatctttat taaaattcct ggtattatca cccccaatta      240
tacagtatga caaccacctt atgtagtttt tacatgatag ctctgtagaa gtttcacatc      300
t

```

<210> 270  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

```

<400> 270
cattgaagag cttttgcga accatcagaac acaagtgcct ataaatttaa ttaaggcetta      60
cacaagaata catattcctt ttatttctaa ggagttaaac atagatgtag ctgatgtgga      120
gagcttgctg gtgcagtgc ttttggataa cactattcat ggccgantt atcangtcaa      180
craartcctt gaactggatc atcagaagaa ggggtgtgca cgatatactg cartagataa      240
tggaccaacc aactaaattc totcaccagg ctgcatcagt aaactggctt aacagaaaac      300
a

```

<210> 271  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)... (301)  
 <223> n = A, T, C or G

&lt;400&gt; 271

```

aaaagggttct cataagattca acaattttaa taantatttg ataggacatt ctttctcatt      60
tttatagetc atcttttaggg ttgatattca gttcatgett cctttgctgt tcttgatcca      120
gaattgcaat caettcatca gcttgattc gctccaatto tctataaagt ggggtccaagg      180
tgaaccacag agccacagca cactctttc ccttggtgac tgccttcacc ccatgaggt      240
tctctcctcc agatganaac tgatcatgcg ccacatttt gggttttata gaagcagtc      300
c

```

&lt;210&gt; 272

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 272

```

taaatgtctc agccacagat aacaccaatc aattggaaca atcactgtc ttcaaatgtc      60
ttatcagaa acccaatgag cttggaatct tcataatacc taaacatgac gtatttagga      120
tcaataaatt cctcatgat gagraagaaa aattctttgc gcacccctc tgcaccaca      180
gcctcttctc caaccaatct aaccttgagt ggcttcttgt aatctatgtt ctttgtttc      240
ctaaggactt ccatgcatc cctacasta tttctctac gcaccactag aatlaagcag      300
g

```

&lt;210&gt; 273

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 273

```

acatgttgtt atgtgtatct ttgggaaan aanaagacat cttgtttayt attttcttgg      60
agagangctg ggacatgget aatcacwtaa ttgtctayta tyactttaat ctgactygaa      120
gaaccgtcta acaataaaat ttaccatgtc dtatatctct tatagtatgc ttatttcacc      180
tcttctctgt ccagagagag tatcagtgc ananatttma ggggtgaamac atymattggg      240
gggacttnty ttacngagm accctgccc ggcgcctcg makengantt ccgcsananc      300
t

```

&lt;210&gt; 274

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (301)

&lt;223&gt; n = A,T,C or U

&lt;400&gt; 274

```

cttatatact ctttctcaga ggcaanagag gagatgggta atgtagacaa ttctttgagg      60
aacagtaaat gattattaga gagaangaat ggaccaagga gacagnaatt aacttgtaaa      120
tgattctctc tggaaatctga atgagatcaa gaggccagct ttagcttctg gaaaagtcca      180
tctagstatg gttgcattct cgtcttcttt tctgcagtag ataattgagg aaccgaaggc      240
aattgtgctt cttttgataa gaagctttct tggatcatatc aggaatttc aganaagtc      300

```

c

301

<210> 275  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...{301}  
 <223> n = A,T,C or G

&lt;400&gt; 275

tcggtgtcag cagcacgtgg cattgaacat tgcattgtgg agcccaaac ccagaaaatg	60
gggtgaaatt ggccaacttt ctatcaactt atgttggcua ttttgcacc aacagtatgc	120
tggcccttct aataaagaa aattgaaagg tttctacta aacggatta agtagtggag	180
tcaagagact cccaggtctc agcgtacttg cccgggcggc cgtctgaagc cgaattctgc	240
agctatccat cacactggcg gncgtctgan catgoatcta gaaggaccaa ttgcacctat	300

301

<210> 276  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 276

tgtacacata ctcaactaat aaatgactgc attgtggtat tattactata ctgattacat	60
ttatcatgtg acttctaatt agaaatgta tccaaagca aaacagcaga tatacaaat	120
ttaagtgaca gaagatagac actaacagat aaggcaactt ataatctgag aatccaaatc	180
caatacatit aaacatttgg gaaatgaggg ggacaaatgg aagccagatc aaatttgtgt	240
aaaactatc agtatgtt ccttgcctca tgtctgagaa ggctctcctt caatggggat	300

301

<210> 277  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{301}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 277

tttgttgatg tcagtatttt attacttgcg ttatgagtgc taccctggga aattctaaag	60
atacagagga ctctggaggaa gcagagcaac tgaatttaat ttaaaagaag gaaacattg	120
gaatcatggc aotcctgata ctctcccaa tcaacactct caatgcccc cctcgtctt	180
cacratagtg gggagactaa agtggccacg gatttgcctc anggtgcag tgcgttctga	240
gttctctgtc gattacatct gaccagtctc ctcttccga agtccnterc tccaattctg	300

301

<210> 278  
 <211> 301  
 <212> DNA  
 <213> Homo sapien



&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 278

taccactaca ctccagcctg ggcacacagag caagacctgt ctcaaaagcat aaaatgggaat	60
aacatataaa atgaaacagg gaaaatgaag ctgacaaattt atggaagcca gggcttgtca	120
cagtctctac tgttattatg cattacctgg gaatttatat aagcccttaa tcaataatgcc	180
aatgaacata tcatgtgtgc tcacaatggt ctggcactat tataagtgtc tcacaggttt	240
tatgtgttct tcgtaacttt atggantagg tctcggccg cgaacacgct aagccgaatt	300
c	301

&lt;210&gt; 279

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 279

aaagcaggaa tgacaaagct tgcctttctg gtatgttcta ggtgtattgt gacttttaact	60
gttatattaa ttgccaatat aagtaaacat agattatata tgtatagtgt ttcaaaaagc	120
ttagaccttt acctccagc caccacacag tgccttgatg ttcagagtea gtcatttgggt	180
atacatgtgt agttccaaag cacataagct agaaanaana atatttctag ggagcactac	240
catctgtttt cacatgaagt gccacacaca tagaactcca acatcaattt catbgcacag	300
a	301

&lt;210&gt; 280

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 280

ggtactggag ttttctccc ctgtgaaac gtaactactg ttgggagcga attgaggatg	60
tagaaagggt gtggaaccaa attgtggtca atggaatatg gagaatatgg ttctcaactct	120
tgagaaaaaa acctaaagatt agcccaggta gttgctgtg acttcagttt ttctgcctgg	180
gtttgatata gtttaggggt ggggttagat taagatctaa attacatcag gacaaagaga	240
cagactatta actccacagc taattaaagg ggtatgttcc atgtttattt gttaaagcag	300
t	301

&lt;210&gt; 281

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 281

aggtacaaga aggggaatgg gaaagagctg ctgctgtggc attgttcaac ttggatatcc	60
gccgagcaat ccaaatcctg aatgaagggg catcttctga aaaaggagat ctgaatctca	120
atgtggtagc aatggcttta tggggttata cggatgagaa gaactccctt tggagagaaa	180
tgtgtagcac actgcgatta cagctaaata acccgtattt gtgtgccatg ttgcatttc	240

tgacaagtga aacaggatct tacgatggag ttttgtatga aaacaaagtt gcagtaactc 300  
g 301

<210> 282  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 282  
caggctactac aganttaaaa tactgacaag caagtagttt cttggcggtgc argaattgca 60  
tcragaaccc aaaaatttaag aatttcmeta agacattitg tgggcacctg ctagcacaga 120  
agcgacagaag caaagcccag gcagaacrat gctaactta cagctcager tgcacagaag 180  
cgcagaagca aagcccaggt agaacatgc taaccttaca gctcagcctg cacagaagcg 240  
cagaagcama gccacggcag aacatgctta cettacagct cagcctgrac agaaagcag 300  
a 301

<210> 283  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 283  
atctgtatac ggcagacaaa ctttatarag tctagagagg tgagcgsaag gatgcaaaag 60  
cacttrgagg gctttataat aatatgctgc ttgaaaaaaa aaatgtgtag ttgatactca 120  
gtgcatctcc agacatagta aggggttget ctgaccaatc aggtgatcat tttttctatc 180  
acttcccagy ttttatgcaa aaattttggt aaattttata atggtgatat geatctctta 240  
ggaacatat acatttctaa aaatttattt tatgttaaga ctgacagagc aatttgcatt 300  
g 301

<210> 284  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 284  
caggtaaaaa acgtatttaa gtggctttag atttgaacat ttgtggcttt tcttacttt 60  
gcttctgtgt tggycaaaag aacatcttcc ctAAatata attaccaaga aaagcaagaa 120  
gcagatttag tttttgacaa acaaaacagg ccaaaagggg gctgacctgg agcagagcat 180  
ggtgagaggc aaggcatgag agggcaagtt tgttgtggac agatcctgtc ctactttatc 240  
actgggttaa aagaaaacaa agttcatiga tctrgaagga tatatacagt gttagaaatt 300  
a 301

<210> 285  
<211> 301  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> 11}... (301)  
<223> n = A,T,C or G

<400> 285  
acatcaccat gatcggatcc cccaccatt atacgttcta tttttacata aatattcttc 60  
aatgatcatc agtgtttta aaaaaatacc gaaaattctc tctgcatccc aatctctaac 120

```

caggaagaca aatgctattt acagacctgc aagccctccc tcaaacnana ctatttctgg 180
attaatatg tctgacttct tttgaggtca cagactagg caaatgctat ttacgatctg 240
caaaagctgt ttgaagagtc aaagccccc tgtgaacacg atttctggac cctgtaacag 300
t 301

```

```

<210> 286
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 286
taccactgca tccagcctg ggtgacagag tgagactccg tctccaaaa aaacttttct 60
tgtatattat ttttgcccta cagtggatca ttctagttag aaaggaacag aagatttttt 120
atcaaaatgt gtcctgccag taagagatgt tatattcttc tctcatttct tccccaccca 180
aaaataagct accatatagc ttataagctc caaatttttg ccttttacta aaatgtgatt 240
gtttctgttc attgtgtatg cttcatcacc tatattagga aaattccatt ttttcccttg 300
t 301

```

```

<210> 287
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 287
tacagatctg ggaactaaat attaaaaatg agtgtggctg gatetatgga gaactgttggg 60
cccagaagga acgtagagat cagatattac aacagcttly ttttgagggg tagaatatg 120
aaatgatttg gttatgaacg cacagttag gcacagngc cagaatctg accctctgcc 180
cgtgggtat ctctcccca gtttggctgc ctcatgtac cacagtattc catttctgtt 240
gttgcatgic ttgtgaagcc atcaagattt tctcgtctgt tttcctctca ttggbaatgc 300
t 301

```

```

<210> 288
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 288
gtacacctaa ctgcaaggac agctgaggaa tgtatcgggc agccgctttt aaagaagtag 60
agtcaatagg aagacaaatt ccagttccag ctacgtctgg gtatctgcaa agctgcaaaa 120
gatcttttaa gacaatttca agagatatt tctttaaagt tggcaatttg gagatcatac 180
aaaagcatct gcttttgcga tttaatttag cttatctggc cactggaaga atccaaacag 240
tctgccttaa ttttggatga atgcattgat gaaattcaat aatttagana gttaaaaaaa 300
a 301

```

```

<210> 289
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (301)
<223> n - A,T,C or G

```

```

<400> 289

```

```

ggtagactgt ttccatgta tgtttctaca cattgctacc ttagtgctcc tggaaactta      60
gtttttgatg tctccaagta gteraccttc atttacctct ttgaaactgt atcatctttg      120
craagtaaga gtgggtggcct atttcagctg ctttgacaaa atgactggct cctgacttaa      180
cgttctataa atgaatgtgc tgaagcaaaag tgcacctggg ggccggcgaan aagagaaaga      240
tgtgttttgt tttggactct ctgtggtccc ttccaatgct gtgggtttcc aaccagngga      300
a                                          301

```

&lt;210&gt; 290

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 290

```

aacctgggct cttcttgata aatataraga atgcttggca tatccaagat tctatactac      60
tgactgatct gttcatttct ctccagctc ttaccccaa aagcttttcc accctaagtg      120
ttctgacctc cttttctaatt cacagtaggg atagaggcag anccacctar aatgaacatg      180
gagttctatc aagaggcaga aacagcacag atccccagtt ttaccattcg ctagcagtgc      240
tgccttgaaac aaaaacattt ctccatgtct cabtttcttc atgcttcaag taacagtgcg      300
a                                          301

```

&lt;210&gt; 291

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 291

```

caggtaccac ttctttctat cctagaaacn tttcatttta tgttgttgaa acataacaac      60
tatatcagct agatttttct tctatgttct acctgctatg gaaaacttga cacactctgc      120
tttactcttt tgtttatagg tgaatcaca aatgtatttt tatgtattct gtagtctaat      180
agccatggct gtttacttca ttttaatttt ttagcataaa gacattatga aaaggcctaa      240
acatgagctt cacttcccaa ctacctaatt agcatctggt atttcttaac cgtaatgcct      300
a                                          301

```

&lt;210&gt; 292

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 292

```

accttttagt agtaatgtct aataataaac aagaaatcaa ttttataagg tccatatagc      60
tgtatttaat aactttcaag tttaaaagat aaaataccat catttcaant gtgggtatct      120
aaaaccnaag natataaccg aaaggaaaaa cagatgagac ataaaatgat ttgcagatgc      180
ggaaatatag tacttyatga atgttnatta aattocagtt ataatagtgg ctacacactc      240
tcactacaca cacagacccc acagtcctat atgccacaaa cacatttcca taacttgaaa      300
a                                          301

```

<210> 293  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 293  
 ggtaccaagt gctggtgcca gccgtttacc tgtttctcact gaaaagtctg gctaattgctc 60  
 ttgtgtagtc actttctgatt ctgacaaaca atcaatcaat ggcctagagc actgactgtt 120  
 aacacaaaag tcactagcaa agtagcaaca gctttaagtc taatatacaas gctgttctgt 180  
 gtgagaattt tttaaaaggc tacttgata ataacccttg tcatTTTTTaa tgaactcgg 240  
 ccgcgaccac gctaagcaga attctgcaga tctccatcac actggcggcc gctcgagcat 300  
 g 301

<210> 294  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (301)  
 <223> n - A, T, C or G

<400> 294  
 tgaccataaa caatatacac tagctatctt cttaactgtc catcattagc accaatgaag 60  
 attcaataaa attaccttta ttcaacacac tcaaaacaat tctgcaaat cttagtgaag 120  
 tttaactata gtccacaganc ttaactattc acattgttt ctatgtctac tgaataaag 180  
 ttcactaatt ttctgggata ttctttacaa aatcttatta aaatccctgg tattatcacc 240  
 ccaattata cagtagcaca accacettat gtggtttta catgatagct ctgtagaggt 300  
 t 301

<210> 295  
 <211> 305  
 <212> DNA  
 <213> Homo sapien

<400> 295  
 gtactctttc tctccctcc tctgaattta attctttcaa ctgcgaattt gcaaggatta 60  
 cacatttcac tgtgatgtat attgtgtgtc aaaaaaaa gtgtctttgt ttaaaattac 120  
 ttggtttgtg aatccatctt gctttttccc cattggaact agtcattaac ccattcttga 180  
 actggttagaa aaactcttga agagctagtc taccagcacc tgacaggaga attggatggg 240  
 tctcagaacc atttcaccca gacagcctgt ttctatcctg tttaataaat tagtttgggt 300  
 tctct 305

<210> 296  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 296  
 aggtactatg ggaagctgct aaaaataatc ttgatagtaa aagtatgtaa tgtgctatct 60  
 caactagtag taaactaaaa ataaactgaa actctatgga ctctgaagtt atttctctg 120  
 attaataga attaataaac caatatgagg aaacatgaaa ccatgcaatc cactatcaac 180  
 tttagaaaag tgattgaacg aaccacttag ctttcagatg atgaacaactg ataagtcatt 240

tgctactact ataaatttta aaattctgta ataagatggu ctacaggag gaaaaagggg 300  
c 302

<210> 297  
<211> 300  
<212> DNA  
<213> Homo sapien  
  
<220>  
<221> misc\_feature  
<222> (1)...(300)  
<223> n = A,T,C or G

<400> 297  
actgagtttt aactggagc caagcaggca aggttggag gtlttgctct ctttgtgcta 60  
aaggttttga aaaccttgaa ggagaaatrat ttgacaaga agtacttaag agtotagaga 120  
acaaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt 180  
tccatcattg ggagtgcact ggccatccct caaaatttgt ctgggctggc ctgagtggtc 240  
accgcacetc ggccggagcc acgctaagcc gaattctgca gatatccatc acactggagg 300

<210> 298  
<211> 301  
<212> DNA  
<213> Homo sapien  
  
<220>  
<221> misc\_feature  
<222> (1)...(301)  
<223> n = A,T,C or G

<400> 298  
tatggggttt gtcaacccaa agctgatgtt gagaaagggc tccctggggc ccttcccgag 60  
ggcatctgag agacctgggt ttccagtgtt tctggaaatg ggtccuagtg cggccggctg 120  
tgaagctctc agatcaatca cgggaagggg ctggcggttg tggccacctg gaaccacctt 180  
gtcctgtctg ttacalttc actaycaggt ttctcttggg cattacnati tgttccctta 240  
caacagtgac ctgtgcattc tgcgttggcc tgcgtgtgtt gcaggtggtt ctacagcagg 300  
t 301

<210> 299  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 299  
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tcaactgcacc ctctgcctcc caggttcagag caatttctcc gctcragcct cccaggtagc 120  
tgggatttga ggctcacgac accataccra gctaattttt ttgtattttt agtagagacg 180  
gagtttcgac atgtcggcca gctgggtctc aartccctgac ctcaagcgac ctgcctgcct 240  
cggcttccca aagtgttggg attataggca tgagtcaaca cgtccagcct aaagatatatt 300  
c 302

<210> 300  
<211> 301  
<212> DNA  
<213> Homo sapien

&lt;400&gt; 300

atcagttttt atttgetgac ccagtatctg taaccaggag tggccacaaa tcttgccaga 60  
 tatgtcccac ccccaactggg aaaggctccc acctggctac ttctctatc agcggggtca 120  
 gctgcattcc acaagggttct cagcctaatt agtttcarta cctggcagtc tcaaaactta 180  
 gtaagcaag accatgacat tccccacgg aaatcagagt ttgcccacc gtcttggtac 240  
 tataaagcct gctctaacca gtcttgctt cttcacacca attccgagcg catcccccat 300  
 g 301

&lt;210&gt; 301

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 301

ttaaatTTTT gagaggataa aaaggacaaa caatctagaa atgtgtcttc ttcagtctgc 60  
 agaggacccc aggtctccaa gcaaccacat ggtcaagggc atgaataatt aaaagtggg 120  
 ggggaactcac aaagaccctc agagctgaga ccccccacac agtgggagct cacaaagacc 180  
 cttagagctg agacacccc aacagcggga gctcacaaag accctcagag ctgagacacc 240  
 cacaacagca cctcgttcag ctgcccacat cgtgaataag gatgcaatgt ccagaagtgt 300  
 c 301

&lt;210&gt; 302

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 302

aggtacacat ttagcttctg gtaaatgact caccnaaachg atttcaaaat caagttaatg 60  
 tgaattttg aaattactac ttaattctaa ttccacataa caatggcatt aaggtttgac 120  
 ttgagttgg tcttagctat atttatggta aataggctct taccacttgc aantaactgg 180  
 ccacatcatc aatgactgac ttcccagtaa ggctctctaa ggggttaagta ggaggatcca 240  
 caggatttga gatgctaagg cccagagat ggtttgatcc aacccctctta ttttcagagg 300  
 g 301

&lt;210&gt; 303

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 303

aggtacacac tggggaataa ggtagaggat cttttttct ttrcatatca actaagtgt 60  
 atattgtctt ttgacagttt aacacatctt ctctgtcag agattctttt acaatagcac 120  
 tggctaattg aactaccgct tgcatttta aaatgggtgt ttgtgaaatg atcataggcc 180  
 agtaacgggt atgttttctt aactgactct ttgtctgttc caaagggacc tcaagacttc 240  
 catcgatttt atattctggg tctagaaaag gaggtaatct gttttccctc ataaattcac 300  
 c 301

&lt;210&gt; 304

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 304

acatggatgt tatcttgacg actgtcacc tgaatttgta ttgcttgac atggccta 60

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tattagcttc agtttcagct taccracctt ttgtctgca catgcaraab agacagtgc 120
cttttttagtg tatcatatca ggaatcatct cacattggct tgtgccatta ctggtgcagt 180
gactttcagc cacttgggta aggtggagtt ggcattatgt ctccactgca aattactga 240
tttccctttt gtaattaata agtgtgtgtg tgaagattct ttgagatgag gtatatatct 300
c 301

```

&lt;210&gt; 305

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n, - A,T,C or G

&lt;400&gt; 305

```

gungtacagc gtgggtcaagg taacaagaag aaaaaaatgt gagtggcatc ctgggatgag 60
caggggggaca gacctggaca gacacgttgt catttgcctg tctgggtagg aaatgggag 120
taaaggaggga gaaacagata cnaaatctcc aactcagtat taaggatatt tcatgcttag 180
aatattggta gaaacaaga tacattcata tggcaataa ctaaccatgg tggaaacaaa 240
ttctgggatt taagttggat accaangaaa ttgtattaa agagctgttc atggaataag 300
a 301

```

&lt;210&gt; 306

&lt;211&gt; 8

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 306

Val Leu Gly Trp Val Ala Glu Leu

1

5

&lt;210&gt; 307

&lt;211&gt; 637

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 307

```

acaggggatg aagggaaagg gagaggatga ggaagcctcc ctggggattt ggtttggctc 60
ttgtgatcag gtggtctatg gggcttatcc ctacaaagaa gaatccagaa ataggggcac 120
attgaggnat gatacttgag cccaaagagc attcaatcat tgttttattt gcttmtttt 180
cacacccttg gtgagggagg gattaccacc ctggggttat gaagatgggt gaacacccca 240
cacatagcac cggagatatg agatcaacag ttctttagcc atagagattc acagcccaga 300
gcaggaggac gcttgcacac catgcaggat gacatggggg atgggctcgg gattgggtgtg 360
aagaagcaag gactgttaga ggcaggcttt atagtaacaa gacgggtggg caaactctga 420
tttccgtggg ggaatgtcat ggtcttctt tactaagttt tgagactggc aggtagtga 480
actcattagg ctgagaacct tgtggaatgc acttgaccca scgatagag gaagtagcca 540
ggtgggagcc ttcccaagt ggtgtgggac atatctggca agattttgtg gcaactcttg 600
ctacagatac tggggcagca aataaactg aactctt 637

```

&lt;210&gt; 308

&lt;211&gt; 647

&lt;212&gt; DNA

&lt;213&gt; Homo sapien



&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (647)

&lt;223&gt; G - A,T,C or G

&lt;400&gt; 308

acgattttca	ttatcagcta	aatcgggtca	ctcaaggggc	caaccacagc	tgggagccac	60
tgttcagggg	aagggttcata	tgggactttc	tactgoccaa	ggttctatac	aggatataaa	120
ggngcctcac	agtatagatc	tggtagcaaa	gaagaagaaa	caaacactga	tctctttctg	180
ccacccctct	gacccitttg	aactcctctg	cccctttaga	acaaagcctac	ctaatactctg	240
ctagagaaaa	gaccaaacaac	ggcctcaaa	gatctcttac	catgaagggtc	tcaactaatt	300
cttggctaag	atgtgggttc	cacattaggt	tctgaatatg	gggggaagg	tcaatttgc	360
catttttgt	gtggataaa	tcaggatgcc	caggggccag	agcagggggc	tgtttgttt	420
gggaacaa	gotgagcata	taaccatagg	ttatggggag	caaaacaaca	tcaaatgcac	480
tgtatcaatt	gacatgaaga	cttgaggggc	ctgaatctac	cgattcatct	taaggcagca	540
ggacragttc	gagtggcaac	aatgragcag	cagaatcaat	ggaaacaaca	gaatgattgc	600
aatgtccttc	ttttctctct	gcttctgact	tgataaaagg	ggacct		647

&lt;210&gt; 309

&lt;211&gt; 460

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 309

actttatagt	ttaggctgga	cattggaana	aaaaaaagc	cagaacacaa	tgtgatagat	60
aatatgatcg	gctgcacact	tcagactga	tgaatgatga	acgtgatgga	ctattgtatg	120
gagcacatct	tcagaaagag	ggggaaatac	tcactatctt	tggccagcag	ttgtttgatc	180
accaaacatc	atgocagaa	actcagaaa	ctttcttagc	tcttgagaag	tcaaatgccg	240
ggggaaattta	ttcttgga	ttttaatttg	actccttatg	tgagagcagc	ggctaccacg	300
ctgggggtgg	ggagcgaacc	cgtcactagt	ggacatgcag	tggcagagct	cctggtaac	360
acctagaggga	atacacaggc	aratgtgtga	tgccaagcgt	gacacctgta	gcactcaaat	420
ttgtcttggc	tttgtcttgc	ggtgtgtaag	attctcaagt			460

&lt;210&gt; 310

&lt;211&gt; 539

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 310

acgggactta	tcaaataaag	ataggaaag	aagaaaactc	aaatattata	ggcagaantg	60
ctaaagggtt	taaaatatgt	caggattgga	agaaagcatg	gatanagaac	aaagtccagt	120
taggaaagag	aaacacagaa	ggaagagaca	caataaaagt	cattatgtat	tctgtgagaa	180
gtcagacagt	aagatttctg	ggaaatgggt	tggtttcttg	tatggctatg	attttagcaa	240
taatctttat	ggcagagaaa	gtcaaaatcc	tttagcttgc	gtgaatgatc	acttctgaa	300
ttcctcaagg	taggcattgat	gaaggagggt	ttagaggaga	caragacaca	atgaactgac	360
ctagatagaa	agccttagta	tactcagcta	ggaatagtga	ttctgagggc	acactgtgac	420
atgattatgt	cattacatgt	atggtagtga	tggggatgat	aggaagggaag	aacttatggc	480
atattttcac	cccccacaaa	gtcagttaaa	tattggggaca	ctaaccatcc	aggtcaaga	539

&lt;210&gt; 311

&lt;211&gt; 526

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(526)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 311

caaatttgag ccaatgacat agaattttac aaatcaagaa gcttattctg gggccatttc	60
ttttgacgtt ttctctaaac tactaaagag gcattaatga cccataaatt atattatcta	120
catttacagc atttaaatg tgttcagcat gaaatattag ctacagggga agctaaataa	180
attaacatg gaataaagat ttgtccttaa atataatcta caagaagact ttgatatttg	240
tttttcacaa gtgaagcatt cttataaagt gtccataacct ttttggggaa acatggggaa	300
aaaatgggga aactctgaag ggttttcaagt atcttaacctg aagctacaga cttcataacc	360
tctctttaca gggagctcct gtagccctta cagaatgag tggctgagat tcttgattgc	420
acagcaagag cttctcctct aaccccttcc cttttttagt atctgtgcat caagtataa	480
agttctataa actgtagtnt acttatttta atccccaaag cacagt	526

&lt;210&gt; 312

&lt;211&gt; 500

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(500)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 312

cctctctctc cccacccctt gactctagag aaccggggtt ttccacagta ctcacagcat	60
tcattttctga aagcagttga gccactttat tccaaagtac actgcagatg ttcaaacctc	120
ccattttctc ttcccttcca cctgcccagt ttgttgactc tcaacttgtc atgagtgtaa	180
gcatttaaggga catttatgct ctctgattct gaagacaggc cctgctcatg gatgactctg	240
gcttcttagg aaatatttct tcttccaaaa ttagtaggaa ctctaaactt atccctctct	300
tgcagatgct tagcagcttc agacatttgg ttangaaccc atggggaaaaa aaataatcct	360
tgtaatgctg gtttcttttg taaccanga ttcttatttg nctggtatag aatctcagct	420
ctgaagctgt ggttaagatt cttgtgttg antataggag aaatcagttt gctgaaaagt	480
tagtcttaat tatctatcgg	500

&lt;210&gt; 313

&lt;211&gt; 718

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(718)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 313

ggagatttct gtggtttgca gccaggggag accaggaaga totgcatggt ggggaaggacc	60
tgatgataca ggggtgagaa ataagaaagg ctgctgactt taccatctga ggccacacat	120
ctgctgaaat ggagataatt aacattracta gaaacagcaa gatgacanta taatgtctaa	180
gtagtacat gtttttgca ctttccayer cttttaaata tccacacaca cagggaagcac	240
aaaagggaag ccagagatcc ctggggagaa tgcctggcgg ccatcttggg tcatcgatga	300
gctcgcctt gtgcctatnc ccgcttctga ggggaaggaa ttagaaaatg aattgatgtg	360
ttccttaag gatggcagga aaacagatcc tgttctggat atttatttga accgggattac	420

agatttgaaa tgaagtcaca aagtgagrat taccoatgag aggaaaacag acgugaaaat	480
cttgatggtr cacaagacat gcaacaaaca aaatgggata ctgtgatgac acgagcagcc	540
aaetggggag gagataccac ggggtagagg tcaggtatct ggccttgctg cctaaactgtg	600
cgttatacca atcatttcta ttctaccct caaacaagct gtngaatatc tgacttacgg	660
ttcttntggc ccacatttcc atnatccacc cctctntttt aannttatcc caaantgt	718

&lt;210&gt; 314

&lt;211&gt; 358

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 314

gtttattttac attacagaaa aaacatcacg acnatgtata ctatttcaca tatatccata	60
cataatcana tatagctgta gtacatgttt tcattgggtg agattaccac aaatgcagg	120
caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg ttagtccaa	180
gctctcggtg gtccagccac tgtgaaacat gctcccttta gattaacctc gtggagctc	240
ttgttgtatt gctgaactgt agtgccctgt attttgcttc tgtctgtgaa ttctgttct	300
tctggggcat ttccttgtga tgcagaggac caccacacag atgacagcaa tctgaatt	358

&lt;210&gt; 315

&lt;211&gt; 341

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 315

taccacctcc ccgctggcac tgatgagccg catcaccaatg gtcaccagca ccataaggc	60
ataggtgatg atgaggacat ggaatgggac cccaaggatg gctgtccaa agaagcgagt	120
gacccccatt ctgaagatgt ctggaccctc taccagcagg atgatgatag cccaatgac	180
agtcaccagc tcccagacca gccggatata gtccttaggg gtcatgtagg ctccctgaag	240
tagcttctgc tgaagagggg tgttgtcccg ggggctctg cggctattgg tctgggctt	300
gagggggcgg tagatgcagc acatggctga gcgatgatg t	341

&lt;210&gt; 316

&lt;211&gt; 151

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 316

agactgggca agactcttac gcccacact graatttggc ctgtttgccc tatccattta	60
tgtgggcttt tctcgagttt ctgattataa acaccactgg agcgatgtgt tgactggact	120
catlcaggga gctctggttg caatatctag t	151

&lt;210&gt; 317

&lt;211&gt; 151

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 317

agaactagtg gatcctaagc aactacctga aacatatatt ggcatttata aatggctcaa	60
atcttcaatt atctctggcc ttaacctgg cctctgaggg tgcggccagc agatcccagg	120
ccagggtctt gttcttgcca caactgcttg a	151

&lt;210&gt; 318

&lt;211&gt; 151

&lt;212&gt; DNA

<213> Homo sapien

<400> 318

actggtggga ggcgctgtt agttggctgt ttccagaggg gtctttcggg gggacctctt 60  
gctgcaggct ggagctgttt tattcttggc gggagaccgc acattccact gctgaggctg 120  
tggggcggtt ttatcaggca gtgataaaca t 151

<210> 319

<211> 151

<212> DNA

<213> Homo sapien

<400> 319

aactagtggg tccagagcta taggtacagt gtgatctcag ctttgcraac acattttcta 60  
catagatagt actaggtatt aatagataty taagagaaga aatcacacca ttaataatgg 120  
taagattggg ttatgtgat tttagtgggt a 151

<210> 320

<211> 150

<212> DNA

<213> Homo sapien

<400> 320

aactagtggg tccactagtc cagtgtgggt gaattccatt gtgttggggg tctagatcgc 60  
gagcpgctgc cctttttttt tttttttttg ggggggaatt tttttttt aatagttatt 120  
gagtgttcta cagcttacag taaataccat 150

<210> 321

<211> 151

<212> DNA

<213> Homo sapien

<400> 321

agcaactttt tttttcatcc aggttatctt aggcttagga tttctcttca cartgcagt 60  
taggttggca ttgtaccag ctatggcata ggtgttaac aaaggctgag taacatggg 120  
tgctctgag aatcaaat cticatatc t 151

<210> 322

<211> 151

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(151)

<223> n = A,T,C or G

<400> 322

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tttgggcttg gtcagtttgc cacagggtt ggagatggg acagtcttct ggcattcggc 120  
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<210> 323

<211> 151

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(251)

<223> n = A,T,C or G

<400> 323

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nagactrant tactnccag ttgtgggtt twtgggagaa atgtactgg acagttagct	120
gttcaatya aaagacactt anccatgtg g	151

<210> 324

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(461)

<223> n = A,T,C or G

<400> 324

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aggttacta cgaatcccat cttgggttccg gctatatcac tgacagcatg gtagaagact	180
gcgaacctca cttctagact ttacgggtgg gacgaaacgg gttagaagac tgcaggggc	240
ctcatcagg gatatcaaaa laccttttgt gctaccagg cctggggaa tcaagtgact	300
cacacaaatg caatagtttg ccactgcatt ttacctgaa ccaagctaa accgggtct	360
gcacacatgc accatggcat gccagagttc aacactgttg ctcttgaaa ttgggtctga	420
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<210> 325

<211> 400

<212> DNA

<213> Homo sapien

<400> 325

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tctataaatg aatgtgtga agcaaatg ccatgggtgg ggcgaagaag agaaagatgt	240
gttttgtttt ggaactctctg tggtrccttc caatgctgtg ggtttccac caggggaagg	300
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<210> 326

<211> 1215

<212> DNA

<213> Homo sapien

<400> 326

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aaaaaanaaa	aaaaa					1215

&lt;210&gt; 327

&lt;211&gt; 220

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 327

Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met	1	5	10	15
Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val	20	25	30	
Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly	35	40	45	
Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu	50	55	60	
Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala	65	70	75	80
Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp	85	90	95	
Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn	100	105	110	
Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro	115	120	125	
Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys	130	135	140	
Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Lys Ala Gly	145	150	155	160
Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro	165	170	175	
Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala	180	185	190	
Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys	195	200	205	
Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser	210	215	220	

&lt;210&gt; 328

<211> 234  
 <212> DNA  
 <213> Homo sapien

<400> 328  
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 atccgcagtg ggtgctgtca gccacacact gtttccagaa ctctacacc atcgggctgg 180  
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<210> 329  
 <211> 77  
 <212> PRT  
 <213> Homo sapien

<400> 329  
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 Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu  
 20 25 30  
 Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Thr  
 35 40 45  
 His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu  
 50 55 60  
 Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala  
 65 70 75

<210> 330  
 <211> 70  
 <212> DNA  
 <213> Homo sapien

<400> 330  
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 gctgcagcra 70

<210> 331  
 <211> 22  
 <212> PRT  
 <213> Homo sapien

<400> 331  
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 1 5 10 15  
 Val Ser Gly Ser Cys Ser  
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<210> 332  
 <211> 2507  
 <212> DNA  
 <213> Homo sapien

<400> 332  
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agaaatttca	caatgcaggc	ctggcctact	gtcacagcaa	gctagccaac	acccctcttca	660
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&lt;210&gt; 333

&lt;211&gt; 3030

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;400&gt; 333

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&lt;210&gt; 334

&lt;211&gt; 2417

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 334

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&lt;210&gt; 335

&lt;211&gt; 2984

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 335

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&lt;210&gt; 336

&lt;211&gt; 147

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 336

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 Leu Asp Ser Glu Asn Thr Ser Gly Ala Leu Pro Arg Leu Pro Gln Thr  
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 Pro Lys Gln Pro Gln Lys Arg Ser Arg Ala Ala Phe Ser His Thr Gln  
 35 40 45  
 Val Ile Glu Leu Glu Arg Lys Phe Ser His Gln Lys Tyr Leu Ser Ala  
 50 55 60  
 Pro Glu Arg Ala His Leu Ala Lys Asn Leu Lys Leu Thr Glu Thr Gln  
 65 70 75 80

Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln  
 85 90 95  
 Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala  
 100 105 110  
 Leu Lys Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn  
 115 120 125  
 Ser Tyr Pro Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro  
 130 135 140  
 Ala Phe Trp  
 145

<210> 337  
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 <212> PRT  
 <213> Homo sapien

<400> 337  
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 1 5

<210> 338  
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 <212> PRT  
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<400> 338  
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 1 5

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 <211> 318  
 <212> PRT  
 <213> Homo sapien

<400> 339  
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 20 25 30  
 Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Val Thr Gly  
 35 40 45  
 Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg  
 50 55 60  
 Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu  
 65 70 75 80  
 Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val  
 85 90 95  
 Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys  
 100 105 110  
 Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala  
 115 120 125  
 Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met  
 130 135 140  
 His Ile Gly Val Asn His Leu Gly His Phe Leu Leu Thr His Leu Leu

145                      150                      155                      160  
 Leu Glu Lys Leu Lys Glu Ser Ala Pro Ser Arg Ile Val Asn Val Ser  
                                  165                      170                      175  
 Ser Leu Ala His His Leu Gly Arg Ile His Phe His Asn Leu Gln Gly  
                                  180                      185                      190  
 Glu Lys Phe Tyr Asn Ala Gly Leu Ala Tyr Cys His Ser Lys Leu Ala  
                                  195                      200                      205  
 Asn Ile Leu Phe Thr Gln Glu Leu Ala Arg Arg Leu Lys Gly Ser Gly  
                                  210                      215                      220  
 Val Thr Thr Tyr Ser Val His Pro Gly Thr Val Gln Ser Glu Leu Val  
                                  225                      230                      235                      240  
 Arg His Ser Ser Phe Met Arg Trp Met Trp Trp Leu Phe Ser Phe Phe  
                                  245                      250                      255  
 Ile Lys Thr Pro Gln Gln Gly Ala Gln Thr Ser Leu His Cys Ala Leu  
                                  260                      265                      270  
 Thr Glu Gly Leu Glu Ile Leu Ser Gly Asn His Phe Ser Asp Cys His  
                                  275                      280                      285  
 Val Ala Trp Val Ser Ala Gln Ala Arg Asn Glu Thr Ile Ala Arg Arg  
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 <212> DNA  
 <213> Homo sapien

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 gctccaaacg tgacatcact gatgctcttc tcgggggggag tgatggcccg ctgggtcacc 360  
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 ctg 483

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 <212> DNA  
 <213> Homo sapien

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 gctgcttac aagtattaaa tattttactt ctcttcataa agagtgcctc aaaaatgca 180  
 attaatrtta taattcttga tgatggcttt atctgcagta atctgtatat catctattag 240  
 aatttactta atgaaaaact gaagagaaac aaatttgtaa cractagcac ttaagtactc 300  
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<210> 342  
 <211> 592  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 342

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accaggattg	gaattttata	aaaalattgt	tgatgggaag	ttgctaagg	gtgaattact	240
tccctcagaa	gagtgc.aaq	aaaagtcaga	gatgctataa	tagcagctat	tttaattggc	300
aagtgcact	gtggaaagag	ttcctgtgtg	tgctgaagt	ctgaaggcca	gtcaaattca	360
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crcgtgtcct	tatgcacaata	atcgtcttct	tctaaatttc	tcttaggett	cattttccaa	480
agttcttctt	ggtttgtgat	gtcttttctg	cttctcatta	attctataaa	atagtatggc	540
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&lt;210&gt; 343

&lt;211&gt; 382

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 343

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&lt;210&gt; 344

&lt;211&gt; 536

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 344

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&lt;210&gt; 345

&lt;211&gt; 251

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 345

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<210> 346  
 <211> 282  
 <212> DNA  
 <213> Homo sapien

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 <221> misc\_feature  
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 <223> n = A, T, C or G

<400> 346  
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 agggagacta tacctggcgc ttgccctaag tgagagggtct tccctccgc accaaaaaat 180  
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<210> 347  
 <211> 201  
 <212> DNA  
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<220>  
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 tataaagaat tctttttgt c 201

<210> 348  
 <211> 251  
 <212> DNA  
 <213> Homo sapien

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 aggagacact cccagcatgg aggggggttt atcttttcat cctagggtcag gtctacaatg 180  
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 gccctgectc c 251

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 <212> DNA  
 <213> Homo sapien

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 cagaagggtc tgaactctac gtgttaccag agaactaat gcaattcatg cattccactt 180  
 agcaattttg taaaatacca gaaacagacc ccaagagtct ttcaagatga ggaanaatcca 240

actcctggtt c

251

&lt;210&gt; 350

&lt;211&gt; 908

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 350

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&lt;210&gt; 351

&lt;211&gt; 472

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 351

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&lt;210&gt; 352

&lt;211&gt; 251

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 352

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aataagrcaca	a					251

&lt;210&gt; 353

&lt;211&gt; 436

&lt;212&gt; DNA



&lt;213&gt; Homo sapien

&lt;400&gt; 353

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&lt;210&gt; 354

&lt;211&gt; 854

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 354

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acacgggagt tcaag	854

&lt;210&gt; 355

&lt;211&gt; 676

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 355

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&lt;210&gt; 356

&lt;211&gt; 574

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 356

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ttctctctgtc	tctgcctaga	ctggaataaa	aagccaatct	ctctcgtggc	aragggaagg	420
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&lt;210&gt; 357

&lt;211&gt; 393

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 357

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gcataatctg	tacaaaatta	aactgtcctt	tttggcattt	taacaaattt	gcaacgktct	360
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&lt;210&gt; 358

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 358

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caagccagag	gttctctcac	aacaaccagt				630

&lt;210&gt; 359

&lt;211&gt; 620

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 359

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ctgtaaagat gtgacagtgt		620

&lt;210&gt; 360

&lt;211&gt; 431

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 360

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agattcttag t		430

&lt;210&gt; 361

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 361

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&lt;210&gt; 362

&lt;211&gt; 463

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 362

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&lt;210&gt; 363

&lt;211&gt; 653

<212> DNA  
<213> Homo sapien  
  
<220>  
<221> misc\_feature  
<222> (1)...(653)  
<223> n = A,T,C or G

<400> 363

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<210> 364  
<211> 401  
<212> DNA  
<213> Homo sapien

<400> 364

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acgtgcatag	ttaatcttta	tatttgcctat	ggcgttgccac	tggaggactt	ggactgcac	360
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<210> 365  
<211> 356  
<212> DNA  
<213> Homo sapien

<400> 365

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gactgtcacg	atgtgtatag	tacagtttga	caagcctggg	tccatacaga	ccgttggaga	300
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<210> 366  
<211> 1851  
<212> DNA  
<213> Homo sapien

<400> 366

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&lt;210&gt; 367

&lt;211&gt; 668

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 367

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&lt;210&gt; 368

&lt;211&gt; 1512

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 368

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&lt;210&gt; 369

&lt;211&gt; 1853

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 369

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&lt;210&gt; 370

&lt;211&gt; 2184

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 370

ggcagaggaa ttAanaccct cagcazaaca ggcatagaag ggacatacct taagtaata	60
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ttctctctga gaactgcac aaataatata aggatgctgg attttgtcaa atgctttttc	180
tgtgtctgtt gagatgctba tgtgactttt cttttaattc tgtttatgtg attatcccat	240
ttattgaact gcttgttta gaccggaaaga gctgggggtg ttctcaggag ccaccgtgtg	300
ctgaggcagc ttccggataa cttgaggctg catcacchgg gaagaacac aytcctatcc	360
gtggcagctga tggctgaggc cagaguttea gtgtggtctc totgagartg gcttcttggg	420
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atggagaaga tctggacaa gctccacagag ctgacctgtg gggtaaaagt cccagaaagg	1020
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gatcagcaag tatagtacgc cctctacttg agcaaaatgr tgatgtatct tcccagatc	1560
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gccagaggca tggaaacttt caaatccaaa cttttggttt aatgtctttt tttttgctt	1800
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gattcttttt tcaagaatct tctggctagg agcgggtgtc cagcctctga attccagcac	1920
cttgagagggc tgagggtgggc agatcacag atcaggagat cgaagaccatc ctggctaaac	1980
cgggtgaacc ccactcttac taataatata aaaaacttagc tgggtgtggt ggcgggtgct	2040
tgtagtccca gctactcagg argctgagge aggaagatgg catgaacccg ggagggtggag	2100
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ctcaaaaaaa aaaaaaanaa aaaa	2184

<210> 371  
 <211> 1855  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (2)...(1855)  
 <223> n - A,T,C or G

<400> 371

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gcgcgcgcgc	cataacgcgc	agactggcct	glaacggctt	gcagggcgcac	gccgcgcgcgc	180
cgtaacggct	tggctggcct	glaacggctt	gcacgtgcac	gctgcacgcgc	cgtaacggc	240
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gtaacntgct	agtttggcgaa	actgggttgg	agacgcgcac	tgtctgttact	actgttctct	660
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cggcaagagc	aacgttggkcg	cttgggggaga	ctacgatgac	agcgccttca	tggakccag	960
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ccccagaaag	gctctcactg	tcatgctcag	ggacactgag	gtgaaccaaga	cggaaccaaga	1080
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aaatatctca	gatgagtatg	gaaataccac	tctacactat	gctgtctaca	atgaagataa	1320
attaatggcc	aaagcactgc	tcttatacgg	tgtctatctc	gaatcaaaaa	acaaggtata	1380
gatctactaa	ttttatcttc	aaaatactga	aatgcattca	ttttaacatt	gacgtgtgca	1440
agggccagtc	ttcgttattt	ggaggtcaca	gcataacttg	aatgaanaata	tttgaanaatg	1500
acctaatatt	ctaagarttt	atcttaata	ttgttatttt	cagaagaagca	ttagagggta	1560
cagttttttc	tttttaaatg	cacttcttgg	aaatactttt	gttgaaaaca	ctgaatttgt	1620
aaaaggtaat	acttactatt	tttcaatttt	tccctcctag	gatttttttc	ccctaattgaa	1680
tgaagatgg	caaatatttg	cctgaatatg	gttttacatg	aaaactcaca	gaaaagtcaa	1740
acatgtttca	gtgaatagag	atcctgcttc	tttggcaagt	tcctaaaaaa	cagtaataga	1800
tacgaggtga	tgcgcctgtc	agtggaagg	tttaagatat	ttctgatctc	gtgcc	1855

<210> 372  
 <211> 1059  
 <212> DNA  
 <213> Homo sapien

<400> 372

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gcgcttgggg	agactmcgat	gacagygcc	tcctggagcc	caggtaccac	gtccgtggag	180
aagatctgga	taagctccac	agagctcccc	tgggtgggga	aagtcccccg	aaaggatctc	240
atcgtcatgc	tcagggaacc	tgaygtgaac	nagarggaca	agcaaaagag	gactgctcta	300
cctctggcct	ctgccaatgg	gaattcagaa	gtaglaaaac	tactgctgga	cagacgatgt	360



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<210> 373
<211> 1155
<212> DNA
<213> Homo sapien
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<div>&lt;400&gt; 373</div>						
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agcaacgttg	gcacttctgg	agaccacgar	gaactctcta	tgaagacact	caggagcaag	180
atgggtcaagt	ggctgccgca	ctgcttccc	tgttcgcygg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccaag	cgactctgct	atgaagacan	tcaggaaara	gatgggcaag	300
tgttgtctgc	actgcttccc	ctgctgcayg	gggagcgga	agagcaagyt	gggcgcttgg	360
ggagactacg	atgacagtgc	cttcattggag	ccuaggtacc	acytccgtgg	agaagatctg	420
gacxagctcc	acagagctgc	ctggtaggyt	aaagtcccc	gaaaggtatc	cat.ctycatg	480
ctcagggaca	ctgacctgaa	caugaaggac	aagcaaaa	ggaactgctc	acatctggcc	540
tctgccaatg	ggaattcng	agtagtadaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtcccttgaca	acaaaaagag	pacugclrtg	ataaaggccg	tacantgcr	ggaagatgaa	660
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accactcggc	actacgtfat	ctaatatgaa	gatcanatta	tggccaaagr	actgctctta	780
tatgggtgctg	atatcgantc	aaaaaaucang	catggcctca	caccactgtt	acttggtgta	840
catgagcana	aacagcaagt	cgtgaaattt	ttxtatcaag	aaauagcgaa	tttaaatgca	900
ctggatagat	atggaaggac	tgcctcata	cttgcctgat	gttgtgcat	agcaugtata	960
gtcagccttc	tacttgayca	aatatattgat	gtatcttctc	aaagatctatc	tgcacagadg	1020
gccagagagf	atgctgtttc	taytcatent	catgtaatct	gccagttaet	tctcagatca	1080
saagaanaac	agatgntaaa	aatctctctc	gaaaaragca	atccagaaa	tgtctcaag	1140
uccagaataa	aataa					1155

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<210> 374
<211> 2000
<212> DNA
<213> Homo sapien
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<400> 374						
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aggagcaaga	tgggcaagt	gtgctggcgt	tgtctgccct	gttgcaggga	gagcggcaag	120
agcaacgtgg	gcacttctgg	agaccacgac	gactctgcta	tgaagacact	caggagcgaag	180
atgggcaagt	gggtgcggcca	ctgcttcccc	tgctgcaggg	ggagctggcaa	gagcaacgtg	240
ggcgccttctg	gagaccatga	cgaactctgct	atgaagacac	tcaaggacaa	gatgggcaag	300
tgggtgctgcc	actgcttccc	ctgctgcagg	gggagcggca	agagcaaggc	gggcgccttg	360
ggagactatg	atgacagtg	ctccatggag	ccaggtacc	acgtctgtgg	agaagatctg	420
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gtcagccttc	tacttgagca	aaacattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgcttc	tagtcatcat	catgtaattt	gccagttact	ttctgactac	1080
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cttagttgta	agaagagaaa	agacatcttg	catgnaata	gtacgttgcg	ggaaagaaat	1920
gccatgctaa	gactggagct	agacacaaat	aaacatcaga	gccagctaaa	aaaaaaaac	1980
aaanaaaaaa	aaaaaaanaa					2000

&lt;210&gt; 375

&lt;211&gt; 2040

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 375

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tgggtgctgc	actgcttccc	ctgctgcagg	gggagcggca	agagcaaggt	gggcgcttgg	360
ggagactacg	atgacagctg	cttcatggag	cccaggtacc	acgtccgtgg	agaaagatctg	420
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tatgggtgctg	atategaatc	aaaaaacaag	catggcctca	caccactgtt	acttgggtgta	840
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aagcatgaaa	gtaataatgt	gggattacta	gaaaacctga	ctaattggtgt	cactgctggc	1320
aatgggtgata	atggatttaat	tcttcanaag	aagagcagaa	caactgaaaa	cragcaattt	1380

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cotgacaacg aaagtgaaga gtatcacaga atttgcgaat taqttttctga ccacaaagaa 1440
aaacagatgc caaataactc ttctgaaac agcaaccag aacaagactt aaagctgaca 1500
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```

&lt;210&gt; 376

&lt;211&gt; 329

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 376

```

Met Asp Ile Val Val Ser Gly Ser His Pro Leu Trp Val Asp Ser Phe
1 5 10 15
Leu His Leu Ala Gly Ser Asp Leu Leu Ser Arg Ser Leu Met Ala Glu
20 25 30
Glu Tyr Thr Ile Val His Ala Ser Phe Ile Ser Cys Ile Ser Ser Ser
35 40 45
Leu Asp Gly Gln Gly Glu Arg Gln Glu Arg Gly His Phe Trp Arg
50 55 60
Pro Gln Arg Leu Leu Cys Glu Asp Ala Trp Glu Gln Glu Val Gln Val
65 70 75 80
Val Leu Pro Leu Leu Pro Leu Leu Gln Gly Ser Gly Lys Ser Asn Val
85 90 95
Val Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr
100 105 110
His Val His Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp
115 120 125
Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
130 135 140
Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
145 150 155 160
Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
165 170 175
Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
180 185 190
Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
195 200 205
Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
210 215 220
Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
225 230 235 240
Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
245 250 255
Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
260 265 270
Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
275 280 285
Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu

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290	295	300
Glu Gln Asn Val Asp Val Ser Ser Gln Asp Leu Glu Arg Arg Pro Glu		
305	310	315
Ser Met Leu Phe Leu Val Ile Ile Met		
325		320

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<210> 377
<211> 148
<212> PRT
<213> Homo sapien
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<220>  
<221> VARIANT  
<222> {1}...{148}  
<223> Xaa = Any Amino Acid
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Trp Thr Ser Ser Thr Glu Leu Pro Trp Trp Gly Lys Val Pro Arg Lys														
20 25 30														
Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Xaa Asp Lys														
35 40 45														
Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu														
50 55 60														
Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp														
65 70 75 80														
Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp														
85 90 95														
Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro														
100 105 110														
Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp														
115 120 125														
Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser														
130 135 140														
Lys Asn Lys Val														
145														

<210> 378  
<211> 1719  
<212> PRT  
<213> Homo sapien

<400> 378															
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Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys	Cys	Arg	Cys	Phe
			20					25					30		
Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly	Thr	Ser	Gly	Asp
		35					40					45			
His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp
	50					55					60				
Cys	Arg	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val
65					70					75				80	
Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Asn

	85		90		95
Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser					
	100		105		110
Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe					
	115		120		125
Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His					
	130		135		140
Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met					
	145		150		155
Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala					
	165		170		175
Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu					
	180		185		190
Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Arg Thr					
	195		200		205
Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met					
	210		215		220
Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn					
	225		230		235
Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys					
	245		250		255
Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly					
	260		265		270
Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val					
	275		280		285
Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr					
	290		295		300
Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile					
	305		310		315
Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu					
	325		330		335
Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val					
	340		345		350
Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile					
	355		360		365
Ser Ser Glu Asn Ser Asn Pro Glu Asn Val Ser Arg Thr Arg Asn Lys					
	370		375		380
Pro Arg Thr His Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser					
	385		390		395
Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys					
	405		410		415
Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly					
	420		425		430
Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys					
	435		440		445
Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly					
	450		455		460
Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys					
	465		470		475
Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys					
	485		490		495
Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp					
	500		505		510
Asp S r Ala Phe Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu					
	515		520		525

Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp  
 530 535 540  
 Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln  
 545 550 555 560  
 Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val  
 565 570 575  
 Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn  
 580 585 590  
 Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu  
 595 600 605  
 Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp  
 610 615 620  
 Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys  
 625 630 635 640  
 Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys  
 645 650 655  
 Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys  
 660 665 670  
 Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala  
 675 680 685  
 Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly  
 690 695 700  
 Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser  
 705 710 715 720  
 Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser  
 725 730 735  
 His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln  
 740 745 750  
 Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys  
 755 760 765  
 Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser  
 770 775 780  
 Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp  
 785 790 795 800  
 Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly  
 805 810 815  
 Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn  
 820 825 830  
 Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe  
 835 840 845  
 Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser  
 850 855 860  
 Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn  
 865 870 875 880  
 Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu  
 885 890 895  
 Glu Gly Ser Glu Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile  
 900 905 910  
 Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn  
 915 920 925  
 Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro  
 930 935 940  
 Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu  
 945 950 955 960  
 Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe

965 970 975  
 Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His  
 980 985 990  
 Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser Glu Ile Ser  
 995 1000 1005  
 Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu  
 1010 1015 1020  
 Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Ile Asp Thr Met Lys His  
 1025 1030 1035 104  
 Gln Ser Gln Leu Pro Arg Thr His Met Val Val Glu Val Asp Ser Met  
 1045 1050 1055  
 Pro Ala Ala Ser Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met  
 1060 1065 1070  
 Gly Lys Trp Cys Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys  
 1075 1080 1085  
 Ser Asn Val Gly Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr  
 1090 1095 1100  
 Leu Arg Ser Lys Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys  
 1105 1110 1115 112  
 Arg Gly Ser Gly Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp  
 1125 1130 1135  
 Ser Ala Met Lys Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His  
 1140 1145 1150  
 Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp  
 1155 1160 1165  
 Gly Asp Tyr Asp Asp Ser Ala Phe Met Glu Pro Arg Tyr His Val Arg  
 1170 1175 1180  
 Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val  
 1185 1190 1195 120  
 Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys  
 1205 1210 1215  
 Lys Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly  
 1220 1225 1230  
 Asn Ser Glu Val Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn  
 1235 1240 1245  
 Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys  
 1250 1255 1260  
 Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro  
 1265 1270 1275 128  
 Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr  
 1285 1290 1295  
 Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp  
 1300 1305 1310  
 Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Gly Val  
 1315 1320 1325  
 His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala  
 1330 1335 1340  
 Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala  
 1345 1350 1355 136  
 Val Cys Cys Gly Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn  
 1365 1370 1375  
 Ile Asp Val Ser Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr  
 1380 1385 1390  
 Ala Val Ser Ser His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr  
 1395 1400 1405

Lys Glu Lys Gln Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu  
 1410 1415 1420  
 Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly  
 1425 1430 1435 144  
 Ser Glu Asn Ser Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn  
 1445 1450 1455  
 Lys Asp Gly Asp Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser  
 1460 1465 1470  
 Asn Asn Val Gly Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly  
 1475 1480 1485  
 Asn Gly Asp Asn Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu  
 1490 1495 1500  
 Asn Gln Gln Phe Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys  
 1505 1510 1515 152  
 Glu Leu Val Ser Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser  
 1525 1530 1535  
 Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu  
 1540 1545 1550  
 Ser Gln Arg Leu Glu Gly Ser Glu Asn Gly Gln Pro Glu Lys Arg Ser  
 1555 1560 1565  
 Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Leu Glu Asn Phe  
 1570 1575 1580  
 Met Ala Ile Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe  
 1585 1590 1595 160  
 Pro Glu Asn Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly  
 1605 1610 1615  
 Leu Ile Pro Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro  
 1620 1625 1630  
 Asp Thr Glu Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln  
 1635 1640 1645  
 Lys Gln Phe Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile  
 1650 1655 1660  
 Leu Ile His Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser  
 1665 1670 1675 168  
 Glu Leu Ser Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn  
 1685 1690 1695  
 Ser Thr Leu Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr  
 1700 1705 1710  
 Met Lys His Gln Ser Gln Leu  
 1715

<210> 379  
 <211> 656  
 <212> PRT  
 <213> Homo sapien

<400> 379

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys  
 1 5 10 15  
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe  
 20 25 30  
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp  
 35 40 45  
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp  
 50 55 60



Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val  
 65 70 75 80  
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn  
 85 90 95  
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser  
 100 105 110  
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe  
 115 120 125  
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His  
 130 135 140  
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met  
 145 150 155 160  
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala  
 165 170 175  
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu  
 180 185 190  
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr  
 195 200 205  
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met  
 210 215 220  
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn  
 225 230 235 240  
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys  
 245 250 255  
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly  
 260 265 270  
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val  
 275 280 285  
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr  
 290 295 300  
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile  
 305 310 315 320  
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu  
 325 330 335  
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val  
 340 345 350  
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile  
 355 360 365  
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu  
 370 375 380  
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys  
 385 390 395 400  
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu  
 405 410 415  
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn  
 420 425 430  
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro  
 435 440 445  
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu  
 450 455 460  
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu  
 465 470 475 480  
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp  
 485 490 495  
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu

500	505	510
Asn Gly Glu Pro Glu Leu Glu	Asn Phe Met Ala Ile Glu	Glu Glu Met Lys
515	520	525
Lys His Gly Ser Thr His Val Gly	Phe Pro Glu Asn Leu Thr Asn Gly	
530	535	540
Ala Thr Ala Gly Asn Gly Asp Asp	Gly Leu Ile Pro Pro Arg Lys Ser	
545	550	555
Arg Thr Pro Glu Ser Gln Gln Phe	Pro Asp Thr Glu Asn Glu Glu Tyr	
565	570	575
His Ser Asp Glu Gln Asn Asp Thr	Gln Lys Gln Phe Cys Glu Glu Gln	
580	585	590
Asn Thr Gly Ile Leu His Asp Glu	Ile Leu Ile His Glu Glu Lys Gln	
595	600	605
Ile Glu Val Val Glu Lys Met Asn	Ser Glu Leu Ser Leu Ser Cys Lys	
610	615	620
Lys Glu Lys Asp Ile Leu His Glu	Asn Ser Thr Leu Arg Glu Glu Ile	
625	630	635
Ala Met Leu Arg Leu Glu Leu Asp	Thr Met Lys His Gln Ser Gln Leu	
645	650	655

<210> 380  
 <211> 671  
 <212> PRT  
 <213> Homo sapien

<400> 380
Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
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Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
20 25 30
Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
35 40 45
His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
50 55 60
Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
65 70 75 80
Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
85 90 95
Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
100 105 110
Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
115 120 125
Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
130 135 140
Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
145 150 155 160
Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
165 170 175
Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
180 185 190
Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
195 200 205
Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
210 215 220
Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn

225                      230                      235                      240  
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys  
                                  245                      250                      255  
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly  
                                  260                      265                      270  
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val  
                                  275                      280                      285  
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr  
                                  290                      295                      300  
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile  
 305                                   310                                   315                                   320  
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu  
                                  325                                   330                                   335  
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val  
                                  340                                   345                                   350  
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile  
                                  355                                   360                                   365  
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu  
                                  370                                   375                                   380  
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys  
 385                                   390                                   395                                   400  
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu  
                                  405                                   410                                   415  
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn  
                                  420                                   425                                   430  
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro  
                                  435                                   440                                   445  
 Glu Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu  
                                  450                                   455                                   460  
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu  
 465                                   470                                   475                                   480  
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp  
                                  485                                   490                                   495  
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu  
                                  500                                   505                                   510  
 Asn Gly Gln Pro Glu Lys Arg Ser Gln Glu Pro Glu Ile Asn Lys Asp  
                                  515                                   520                                   525  
 Gly Asp Arg Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys Lys  
                                  530                                   535                                   540  
 His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly Ala  
 545                                   550                                   555                                   560  
 Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser Arg  
                                  565                                   570                                   575  
 Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr His  
                                  580                                   585                                   590  
 Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln Asn  
                                  595                                   600                                   605  
 Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln Ile  
                                  610                                   615                                   620  
 Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys Lys  
 625                                   630                                   635                                   640  
 Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile Ala  
                                  645                                   650                                   655  
 Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu  
                                  660                                   665                                   670

<210> 381  
 <211> 251  
 <212> DNA  
 <213> Homo sapien

<400> 381

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cccatatcc agyagaagca ttggggaggt gggggcaggt gaaggacca ggaactcac	180
atcctggggc tccaaggcag agggaggggt cctcaagaa gtccggagga aaatccgtaa	240
caagcagta g	251

<210> 382  
 <211> 3279  
 <212> DNA  
 <213> Homo sapiens

<400> 382

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ctgctgagag gtgtcaggaa gtgtcgggc tctggggcag gggggaggg tggggagtgt	120
cactgggagg ggacatcctg cagaaggtag gagtggagca acacccgctg caggggaggg	180
gagagccctg cggcacctgg gggagcagag ggagcagrac ctgcccagga ctgggagga	240
gggctctggag ggcgtgagga yagcagggg ggtgcatgg ctggagtgg ggcacaggg	300
cagggcgcca gattggctca cacagggaag agagggccc tctgcaagg cctcactgg	360
gcccacaggag gacactgctt ttctctgag gagtccagg ctgttgatgg tctggacag	420
aagaaggana gggcctggct caggtgtcca gaggctgtcg ctggcttccc ttggggatca	480
gactcaggg agggagggcg gcagggtgtt gggggagtg aggtgagga tgactgggg	540
gtggctccag gcttgcctcc tgcctgggc ctcaaccag cccctcaca gctcctggc	600
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gaactgacca taccacagcc tgcctcaggg cctccatggg tcccaatgc cctggaggg	720
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gcactctgca gatggctccc gcccctatcc tgcctgacct totgagggga ctgtcctct	840
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gagccttgtt cctctgttly gactcctgc ccatattctt gtgggagtgg gttctggaga	960
caattctgtc ttttctgag agctgggaat tgcctcagt catctgctg cgggttctg	1020
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gcattaccgg aagtggatca aggacacat cgcagccaac cctgggtgc cctgtccc	1260
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tgtttgtgg gtgcagagat gggaggggtg gggccrccc tggagagtg gacagtga	1620
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tagggggaga aactgaaagc tgattaatt caggaggttt gttcaggtcc cccaaaccac	1860
cgtcagatt gatgatttcc tagcaggact tacagaanta aagagctate atgctgtgt	1920
ttattatgg ttgttccatt gataggalac atactgaant cagcaacaa aacagatgt	1980
tagattagag tgtggagaa acagagggaa acttgcagtt aggaagactg gcaacttgc	2040
ttactaagt ttccagactg gcagggaagt aaacutatta ggtgagga cttgtggagt	2100
gtagctgac cagctgalt agyaaactagc caggtagggg ctttccctt tggatgggg	2160

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gcataatccga cagttattct ctccaaagtgg agacttaagg acagcatata attctccctg 2220
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gtgtccaggg tttttactgg gggctctgtag gacgagtatg ggaatactga ataattgaac 2340
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ccagctgat agaggaagta gccaggtggg agcetttcac agtgggtgtg ggacatctct 3180
ggcaagattt tgtggcactc ctggttacag atactggggc agcaaataaa actgaatctt 3240
gttttcagac cttaaaaaa aaaaaaaa aaaggtttt 3279

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&lt;210&gt; 383

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 383

```

Met Ala Gly Val Arg Asp Gln Gly Gln Gly Ala Arg Trp Pro His Thr
      5                                10                    15

```

```

Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
      20                                25                    30

```

```

His Cys Phe Ser Ser Glu Gln Ser Gly Ala Val Asp Gly Ala Gly Gln
      35                                40                    45

```

```

Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
      50                                55                    60

```

```

Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
      65                                70                    75                    80

```

```

Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala
      85                                90                    95

```

```

Trp Ala Leu Thr Gln Pro Pro Ser Gln Ser Pro Gly Pro Gln Ser Leu
     100                                105                    110

```

```

Pro Ser Thr Pro Ser Ser Ile Trp Pro Gln Trp Val Ile Leu Ile Thr
     115                                120                    125

```

```

Glu Leu Thr Ile Pro Ser Pro Ala His Gly Pro Pro Trp Leu Pro Asn
     130                                135                    140

```

```

Ala Leu Glu Arg Gly His Leu Val Arg Glu
     145                                150

```

<210> 384  
 <211> 557  
 <212> DNA  
 <213> Homo sapiens

<400> 384  
 ggatcctcta gagcggrcgc ctactactac taaattcgcg gercggtcga cgaagaagag 60  
 aaagatgtgt ttgtttttgg autotctgtg gtercttcca atgtgtgtggg ttcccaacca 120  
 ggggaagggt cccittttgca ttgccaagtg ccatataccat gacactact ctaccatggg 180  
 tctgcctcct ggccaagcag gctggtttgc aagaatgaa tgaatgatte taccagctagg 240  
 actcaacctt gaantggaaa gtcttgcact cccatttgcg ggatccgtct gtgcacatgc 300  
 ctctgtagag agcagcattc cuagggaact tggaaacagt tggcactgta aggtgcttgc 360  
 tccccaaggc acatcctaaa aggtgttgtt atggtgaaaa cgtcttccct ctttattgcc 420  
 ctttcttatt tatgtgaaca actgtttgtc tttttttgta ttttttttaa actgttaagt 480  
 tcaattgtga aatgaaatat catgcaata aattatgoga ttttttttcc aagtaaaaa 540  
 aaaaaa  
 557

<210> 385  
 <211> 337  
 <212> DNA  
 <213> Homo sapiens

<400> 385  
 ttcccagggt atgtgcgagg gaagacacct tcaatctctc tgaaggggct gattccttta 60  
 gtttctctag cagcagatgg gttaggagga agtgacccaa gtggttgatt ctatgtgca 120  
 tctcaagacc atctgtctgc ttcgagtang gacacatcat cactcctgca ttgttgatca 180  
 aaacgtggag gtgcttttcc tccagctaaga agcccttagc aaaaagtoga atagacttag 240  
 tatcagacag gtccagtttc cgcaccaaca cttgcttggt cctgtcgtg gtctggatct 300  
 gtttggccac caattccccc tttcccaat ccggga  
 337

<210> 386  
 <211> 300  
 <212> DNA  
 <213> Homo sapiens

<400> 386  
 gggcccgcta ccggccragg ccccgctcag cgagtccctc tccrccgggt cctgcccgca 60  
 gcccgctcgg cccagagggt gggcgggggg ctgctctac cggctggcgg ctgttaactca 120  
 gcgaccttgg ccggaaggct ctgccaagga cccaccgacc ccagccgagg cggcgggcgc 180  
 gcggaatttg cccggtgtgt gggcgggagc ggaatgcgtg tccgaggag ggcagcgaag 240  
 atgttagcct tcgtgncag gaccgtggac cgatccragg gctgtggtgt aacctcagcc 300

<210> 387  
 <211> 537  
 <212> DNA  
 <213> Homo sapiens

<400> 387  
 gggccgaagt gggcaccag ggactcttga caggcttccct tccrccgato atcaaggctg 60  
 cccctctctg tggcatcatg atcagcact atgagttcgg caaaagcttc ttccagaggc 120  
 tgaaccaaag ccggttctg ggcggctgaa aggggcaagg aggcaggac cccgtctctc 180  
 ccacggatgg gggaggggca gaggagacc cagccaagtg ctttttccct agcactgagg 240  
 gagggggctt gtttcccttc cctccgggca acaagctcca gggcagggcl gtccctctgg 300

```

ggggcccagc atttctctag acacaacttc ttctctgtgc tccagtctgt gggatcaten 360
cttaccacacn ccccaagttc aagacccaat ctccagctg cccctctgt gtttccctgt 420
gtttgtctga gctgggcatg tctccaggaa ccaaggaagc ctacgctgg tgtagtctcc 480
ctgaccttgg ttaattccct aagtctaaag atgatgaact tcaaaaaaaa aaaaaaa 537

```

&lt;210&gt; 388

&lt;211&gt; 520

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 388

```

aggataattt ttaaaccaat caaatgaaa aaacaaacaa acaaaaagc aattgtcatg 60
tgagggttaa ccagtttgc tccccctaat gtgggaaaag taaggaggact actcagcact 120
gtttgaagat tgcctctctt acagcttctg agaatttgtt tatttccctt gcccaagtga 180
ggaccccttc cccaacatgc cccagccca cctlaagcat ggtcccttgc caccagga 240
ccaggaaact gctacttgtg gactctacca gagaccagga ggggttggtt agctcacagg 300
acttccccca cccagaaga ttagcatccr atactagact cactactaac tcaactagga 360
tcatactcaa ttgatggta tttagacatt ccatttcttt ctgggttact taacagaaa 420
atcttctctc ttctcattac cagtaaggc tcttggtatc tttctgttgg aatgatttct 480
atgaacttgt cttattttta tgggtgggtt tttttctggt 520

```

&lt;210&gt; 389

&lt;211&gt; 365

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 389

```

cgttgcccca gtttgacaga aggaagggcg gagcttattc aaagtctaga gggagtggag 60
gagtttaaggc tggatttcag atctgcclog ttccagccgc agtgtgacct ctgtccccc 120
aargacttcc caataatct cccagcgcc tccagctca ggcgtctag aagcgtcttg 180
aagcctatgg ccagctgtct ttgtgtccc tctcaccgc ctgtctccar agctgagct 240
cccaggaaac ctccagacta ccttcccttg ccttcagcaa ggggcttgc ccacattctc 300
tgagggtcag tggagaacc tagactccca ttgctagagg tagaagggg aagggtgctg 360
gggag 365

```

&lt;210&gt; 390

&lt;211&gt; 221

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(221)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 390

```

tgctctcca tcttgccccc gacttctctg tcaggaaagt ggggattggc cccatctgca 60
tacacggntt ctcatgggtg tggacatct ctgtttggg ttccaggaa gctctggct 120
gctctangag tctganenga nctgttgc cactntgaca naaggaaag cggagcttat 180
tcaaagtcta gaggagtg aggagttag gctggatttc a 221

```

&lt;210&gt; 391

&lt;211&gt; 325

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1) ... (325)  
 <223> n = A, T, C or G

<400> 391  
 tggagcaggt cccgaggcct ccttagagcc tggggccgac tctgtgncga tgcangcttc 60  
 ctctcgccgc cagcctggag ctgtccctgg catctacca caatcagncg aggcgagcag 120  
 tagccagggc actgctgccc acagccagtc cnnatccat catgtacccc ggtgngctct 180  
 naanttgat ntccanagcc ctaccatcn tagttctgct ctcccaccgg ntaccagccc 240  
 cartgcccag gaatcctaca gcagtagccr tgtcccagcg tctctacctc ccagtacgat 300  
 gggacctccg gctactacta tgacc 325

<210> 392  
 <211> 277  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1) ... (277)  
 <223> n = A, T, C or G

<400> 392  
 atallgctta actccttctt ctatatcttt caacatttcc atggngaaug gttccatcc 60  
 agtctcactt nggcagagga ctctactctg agtctcttcc ccggcctgno ccagtngnaa 120  
 antaccanga accgncatgn cttaanaacc nccctggttn tgggttnttc aatgarxgca 180  
 tgcagtgcac caccctgtcc actacgtgat gctgtaggat caaagtctca cagtggcgcg 240  
 ctgaggatcc agggcccgct cctgtgttgc tggggaa 277

<210> 393  
 <211> 566  
 <212> DNA  
 <213> Homo sapiens

<400> 393  
 actagtcacg tgtggtggaa ttccggggcg cgtcgacgga caggtcagct gtctggctca 60  
 gtgatctaca ttctgaagtt gtctgaaat gtcttcatga ttaatttcag cctaaacgtt 120  
 ttgcggggaa cactgcagag acaatgctgt gagtttccaa ccttagccca tctgcgggca 180  
 gagaaggtct agtttgtcca tcagcattat catgatctca ggaactggtta cttagttaag 240  
 gagggtctca ggaatctgt cctttttaga gaccccttac ttataatgaa gtatttggga 300  
 ggggtgtttt caaaagtga aatgtcctgt attccgatga tcatcctgta aacattttat 360  
 catttatcaa tcatccctgc ctgtgtctat tattatattc atctctctac gctggaact 420  
 ttctgectca atgtttactg tgcctttgtt tttagtagtt tgtgtgttg aaaaaaaa 480  
 cattctctg ctgagtttta atttttgtcc aaagttattt taatctatac aattaaaagc 540  
 ttttgcctat ccaaaaaaaa aaaaa 566

<210> 394  
 <211> 384  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature



<222> (1)...(384)

<223> n = A,T,C or G

<400> 394

```

gaacatacat gtccccggcac ctgagctgca gtctgacato atcgccatca cgggacctgc 60
tgcaaattna gaccggggcna aggtctgact gctggagcgt gtggaaggagc tacaggccna 120
gcaggaggag cgggctttta ggagttttta gctgagtgto actgtagacc ccaataacca 180
tcucaagatt atcggggagaa agggggcagt aattaccraa atccggttgg agcatgacgt 240
gaacatccag tttctctgata aggacgatgg gaaccagccc caggaccana ttaucataca 300
agggtagcga aagaacacag aagctgcacg ggatgctata ctgagaattg tgggtgaact 360
tgagcagatg gtttttgagg acgt

```

384

<210> 395

<211> 399

<212> DNA

<213> Homo sapiens

<400> 395

```

ggcaaaactg tgtgacctca ataagacctc gcagatccaa ggtcaagtat cgggaagtga 60
tctgaccttg gaotccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
tatcagaggt ttcatacttg cgggaattgt ggagtcbaag gaatacatgg cctctgaagt 180
attcagctct ttcaggtacc ctgagttctc tatagagttg cctaacacag gcagaattgg 240
ccagctactt gtctgcaatc gtatcttcaa gaataacctg gcaatccctt tgactgaagt 300
caagttctct tgggaagcc tgggcattct ctcaatcacg acctctgacc atgggacggt 360
gcagcctggt gagaccatcc aatcccaaat aaatgcaac

```

399

<210> 396

<211> 403

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(403)

<223> n = A,T,C or G

<400> 396

```

tggagttntc agtgraaaca agccataaag cttcagtagc aaattactgt ctacacagaa 60
gacattttca actttgtctc cagctgctga taaaacaaat catgtgttga gcttgactcc 120
agacaaggac aacctgttcc ttcataaotc tctagagaaa aaaggaggtt gttagtayat 180
actaaaaaaa gtggatgaat aatctggata tttttcctaa aaagattcct tgaaacacat 240
taggaaaatg gagggccttc tgatcagaat gctagaatta gtccattgtg ctggaagcag 300
gttttagggg yggagttagg gataaagaa gyaazaaag aagagtgaag aaacctattt 360
atcaaagcag gtgctatcac tcaatgttag gccctgctct ttt

```

403

<210> 397

<211> 400

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(100)

<223> n = A,T,C or G

&lt;400&gt; 397

actagtncag tgttgtggas ttgcgggcg cgtgcgccta naanccatct ctctagcaaa 60  
 tccatccccg ctcttggttg gtnaccgaat gactgacaaa 100

&lt;210&gt; 398

&lt;211&gt; 278

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(278)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 398

gcggcgcgct cgaragcagt tccgcacagc ctgcgccttg ggtggggatg tgcctgcacgc 60  
 ccacctggac atctggaggt cagcggcctg gatgaagag cggacttcac ctggggcgat 120  
 tcaactactgt gctcgcacca gtgaggagag ctggaccgac agcgaggttg actcactatg 180  
 ctccgggcag cccatccacc tgtggcaglt cctcaggag ttgctactca agcccccagc 240  
 ctatggccgc ttcattangt ggtccancaa ggagaagg 278

&lt;210&gt; 399

&lt;211&gt; 298

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(298)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 399

acgggggttg aggaagcgnc cctgggagtg anaggatggg tctcgcatt gaccnccctn 60  
 ggggtgceng catggagcgc atgggcgcgg gctggggcca cggcatggat cagctgggct 120  
 ccgagatcga ggcgatgggc ctggtcatgg accgcctggg ctccctggag cgratgggcu 180  
 ccggcattga ggcgatgggc ccgctgggcc tgcaccacat ggctccanc attganccga 240  
 tgggcagac catggagcgc attggctctg gctggagcn catgggtgac ggcctggg 298

&lt;210&gt; 400

&lt;211&gt; 548

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 400

acatcaacta cttcctcatt ttaaggatag gcagttcctt tcatcccttt ttcttgcttt 60  
 gtacatgtac atgtatgaaa tttcctttct ttaccgaact ctctccacac atcacagggt 120  
 caaagaacca cacgcttaga agggtaagag ggcaacctat gaaatgaat ggtgatttct 180  
 tgagtctctt tttccacgt ttaaggggcr atggcaggac ttgaggttgc gagttaagac 240  
 tgcagagggc tagagaatta tttcatcacg gctttgagge caccatgtu atttatccng 300  
 tataccctct caccatccc ttgtctactc tgatgccccc aagatgcaac tgggcagcta 360  
 gttgggcccc taattctggg cctttgttgt ttgttttaac tacttyggca tcccaggagc 420  
 ctttccagtg atctctaac atgggccccc ctcttgagat caagccctc ccaggccctg 480  
 tcccagccc ctctgccc agcccacccg attgccttgg tgcctagccc tccatttggg 540  
 agcaggtt 548

<210> 401  
 <211> 355  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(355)  
 <223> n = A,T,C or G

<400> 401  
 actgtttcca tgttatgttt ctacacattg ctacctcagt gctcctggaa acttagcttt 60  
 tgaatgtctcc aagtagtcca ctttcattta actctttgaa actgtatcat ctttgcraag 120  
 taagagtggc ggcttatttc agctgctttg acaaaatgac tggctcctga cttaaccttc 180  
 tataaatgaa tgtgctgaag caaagtgcac atggtggcgg cgaagaagan aagatgtgt 240  
 ttgttttgg actctctgtg gtctcttcca atgctgmggg ttcccaacca ggggaaggt 300  
 cctttttgca ttgccaagt ccataacct gaggactact ctaccatggg tctgc 355

<210> 402  
 <211> 407  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(407)  
 <223> n = A,T,C or G

<400> 402  
 atggggcaag ctggataaag aaccaagacc cactggagta tgcgtctctc aagaaaccca 60  
 tctacatgc ggtggcctac ataggctcaa actaaaggaa tggagaaaaa tctttcaagc 120  
 aatggaaaa cagaaaaaag caggtgttgc actcctactt tctgacaaaa cagactatgc 180  
 gaataaagat aaaaaagaga aggacattac aaaggtggtc ctgacctttg ataantctca 240  
 ttgcttgata ccaaccctgg ctgttttaant tgcacaaacc aaaggatga tttgtgagg 300  
 ttgtggagct tctccctgc agagagtccc tcatctccca aaatttgggt gagatgtaag 360  
 gntgattttg ctgacaaact ctttctctga gtttactcca ctccaa 407

<210> 403  
 <211> 303  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(303)  
 <223> n = A,T,C or G

<400> 403  
 cagtatttat agcnaactg aaaagctagt agcaggcagg tctcaaatcc aggcaccana 60  
 tcttaagcaa gaggcatggc atggtgaaa tgcaaaagga gactctggcc aatctacaaa 120  
 tagagaacaa gacctactca gtcatgaaca aaaggcaga caccacatg gatctcatgg 180  
 gggattggat attgttaata tagagcagga agatgacagt gctcgtcatt tggcacaaca 240  
 tcttaacaa gaccgaaacc catttatlca ataaacctcc attcggtaac catgttgaaa 300  
 gga 303

<210> 404  
 <211> 225  
 <212> DNA  
 <213> Homo sapiens

<400> 404  
 aagtgttaact tttaaaattt tagtggattt tgaaaattct tagagggaag taaaggaaaa 60  
 attgttaattg caactcattta cttttacatg gtgaaggctt tctcttgatc ctacaaacag 120  
 acattttcca ctctgtgtttc catagtgtgt aagtgtatca gatgtgttg gcattgtgaat 180  
 ctccaagtgc ctgtgttaata aataaagtar ctttattttt tttat 225

<210> 405  
 <211> 334  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(334)  
 <223> n = A,T,C or G

<400> 405  
 gagctgttat actgtgagtt ctactaggaa atcatcaaat ctgagggttg tctggaggac 60  
 ttcaataaac ctccccccat agtgaatcag ctccaggagg gtccagtccc tctcttaact 120  
 tcatccccat cccatgccaa aggaagacc tccctccttg gctcacagcc ctctctagge 180  
 tccccagtgc ctccaggaca gactgggtta tgtttcagc tccatccttg ctgtgagtgt 240  
 ctggtgcggt tgtgactcca gcttctgctc agtgcctcat ggcagtgct cagcccatgt 300  
 cactctccac tctctcann tggatccccc cctt 334

<210> 406  
 <211> 216  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(216)  
 <223> n = A,T,C or G

<400> 406  
 ttccatacct aatgagggag ttganatnac atnnaacrag gaattgcatt gatctcaang 60  
 gaacaaacca cccaataaac tcggagtggt agactgacaa ctgtgagaca tgcatttgc 120  
 acnaaacaca aattttatgt tgcacccctt tttctacacc tgtgggttat gacaaagaca 180  
 actgocaaag aatnttcaag aaggaggact gccant 216

<210> 407  
 <211> 413  
 <212> DNA  
 <213> Homo sapiens

<400> 407  
 gctgacttgc tagtatcatt tgcattcatt gaagacacag aacttcatgc cttyactcat 60  
 gtaantgras taggattaaa aaataaattt gatattcacat ggaacagac aaaaaatatt 120  
 gtacaaatt gcacccagtgc tcagattcta vacctggcca ctgaggagac agagattaat 180  
 cccagaggtc tatgtcttaa tatgttatgg caaatggatg tcatgacgt accctcattt 240

```

ggagaaattgt catttgcca tgcgcagtt gatacttatt cacatttcac atgggcaacc 300
tgcagacag gagaaagtct tccatgtta aaagccattt attatcttgt tctcctgtca 360
tgggagttcc agaaaaagtt aaaacagaca atgggccagg ttcctgtagta aag      413

```

<210> 408

<211> 183

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> {1}...{183}

<223> n = A,T,C or G

<400> 408

```

ggagctngcc ctaatttcc. ccatntctat gttancatat ttaatgtctt ctymattaa 60
tnccttaacta gttactcctt aaagggcten ntatcctta actagtcctt ccathgtag 120
cattatcctt ccagtattcn ccttcntttt catttactuc ttcctggcta cccatgtact 180
ntt                                     183

```

<210> 409

<211> 250

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> {1}...{250}

<223> n = A,T,C or G

<400> 409

```

cccacgcatg ataagctctt tatttctgta aglctgtcta ggaaatcatc aaatctgacg 60
gtgggtttgg ggacctgaac aaacctcctg taattaatca gctttcagtt tctcccccta 120
gtcctctctt caacaacata ggaggatcct cccctctctt ctgctcacgg ccttatctag 180
gcttcccaat gcccccagga cagcgtgggc tatgtttaca ggcctcctt gctggggggg 240
ggcmtatgc                                     250

```

<210> 410

<211> 306

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> {1}...{306}

<223> n = A,T,C or G

<400> 410

```

ggctggtttg caagantgaa atgaatgatt ctacagctag gacttaacct tgaatggaa 60
agtcttgcaa tccatttgc aggatccgtc tgtgcacatg cctctgtaga ggcagcatt 120
cccggggaac ttggaaacag tgggcctgt aaggtgcttg ctecccaaga cacatcctaa 180
aaggtgttgt aatggcgaac accgcttcc tctttattgc ccttctttaa ttatgtgaac 240
nactggttgg ctttttttgn atcttcttta aactggaaag ttcattgng aaatgaata 300
tcntgc                                     306

```

<210> 411  
 <211> 261  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(261)  
 <223> n = A,T,C or G

<400> 411  
 agagatattt cttagggttaa agttcataga gttcccatga actatatgar tggcaccaca 60  
 ggaatttttt tatttaagga ttctgagatt ttgttgagc aggtttgat aaggctgttc 120  
 tttaaatgtc tgaattggaa cagatttcaa aaaaaaaccc caccatctag ggtgggaca 180  
 aggaaggaaa gatgtgata ggtgatggg caaaaaacca atttaccat cagttcagc 240  
 ctctctcaa ggngaggcaa a 261

<210> 412  
 <211> 241  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(241)  
 <223> n = A,T,C or G

<400> 412  
 gtccaatgtt acctgacatt tctacacac cccattcac gatgatctcg ttgcccagtg 60  
 ggaacatacc agcctgaatt tggaaaaaat aattgtgttt ctgcccagg aatactarg 120  
 actgaatttg atggctccac aacataaac cagtgtaaa acagaagatg tggaggggag 180  
 ctgggagatt tcatctggta cattgaattc ccaactaac cangcaatta cccagccac 240  
 a 241

<210> 413  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(231)  
 <223> n = A,T,C or G

<400> 413  
 aactcttaca atccaagtga ctcatctgtg tgattgaatc cttccactg tctcatctcc 60  
 ctcatccaag tctctagtac ctctctttg ttgtgaagg taatcaaat gaacacaaa 120  
 aagtttactc tctcatttg gaacctaaa actctcttct tcttgggtct gagggtcc 180  
 agaatccttg aatcanttct cagatcattg gggacaccan atcaggaacc t 231

<210> 414  
 <211> 234  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 414

actgtccatg aagcaactgag cagaagctgg aggcacacac caccagacac lccacgcaag 60  
 gatggagctg aacacataac cactctctgc ctggaggcag tgggaagcct agagaaggct 120  
 gtgagccaa gagggaagggt cttcttttgg catgggatyg ggatgaagta aggaaggga 180  
 ctggacccc tggaagctga ttcactatyg ggggagggtg attgaagtcc taca 234

&lt;210&gt; 415

&lt;211&gt; 217

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}... (217)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 415

gcataggatt aagactgagt atcttttcta cttcttttta acttttctaag gggcacttct 60  
 caaaacacag accaggtagc aaatctccc tgccttaagg ntctcaccac cactttctca 120  
 cacttagcaa tagtagaatt cagtctact tctgaggcca gaagaatggt tcaquaatat 180  
 antggattat aaaaataac aattaagaaa aataatc 217

&lt;210&gt; 416

&lt;211&gt; 213

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}... (213)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 416

atgcataatc aaaggaact gctcgtttc tagaagacat ctggactgct ctctgcatga 60  
 ggcacagcag taagctctt tgaattcccag aatcaagaac ctctcccttc agactattac 120  
 cgaatgcaag gtggttaatt gaaggccact aattgatgct caaatagaag gatattgact 180  
 atattggaa agatggagtc tctactacaa aag 213

&lt;210&gt; 417

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}... (303)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 417

lactctttag gcccatcagg gaagttcaca ctggagagaa gtcatacata tgaactgtat 60  
 gtgggaagg cttactctg agttcaatc ttcaagccc tcaaggagtc cactctggag 120  
 agaagccata caaatgcant gagtgtggg agaggttcag gagggttcc cattatcaag 180  
 ttcattctagt ggtcacaca ggaaggaac cctataaatg tgaatattgt ggggaaggct 240  
 tcaatcaag ttcgtatctt caatccttc aggaaggncc cagtatanen aaacctttta 300  
 agt 303

<210> 418  
 <211> 328  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(328)  
 <223> n = A,T,C or G

<400> 418  
 ttttttggcgg tgggtgggga gggatgggac angagtctca ctctgttgcg caggctggag 60  
 tgcacaggca tgatctggc tcactcaca cctgcctcc catgtccag cgattcttgt 120  
 ggcctcggct tccctgtag tagaattaca ggcacatgcc accacacca gctagttttt 180  
 gtatttttag tagagacagg gtttcaccat gttggccagg ctggcttcaa actcctnacc 240  
 tcagnggtca ggcctggctc aaactcctga cctcaagtga tctgccacc tgggctccc 300  
 aaagtgcctn gtttaraggg cgtgagcc 328

<210> 419  
 <211> 389  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(389)  
 <223> n = A,T,C or G

<400> 419  
 cctcctcaa agggcctgtg gtccgcctcc cggcaaccaa gaagcctgca glgcatatg 60  
 acccctgagc catggactgg agcctgaaag gcagcgtaca ccttgcctct gatcttgcgt 120  
 ctctgttctc ctctgtggct ccattcctag cacagttgtt gcactgaggc ttgtgcagge 180  
 cgagcaaggc caagctgggt caaagagcaa ccagtcaact ctgccacggt gtgccaggca 240  
 ccggttctcc agccaccaa ctcactcgtt cccgcgaatg gcacatcagt tcttctaccc 300  
 taaaggtagg accaaagggc atctgctttt ctgaagtcct ctgctctatc agccatracg 360  
 tggcagccac tcnngctgtg tgaagcgg 389

<210> 420  
 <211> 408  
 <212> DNA  
 <213> Homo sapiens

<400> 420  
 gttcctccta actcctgcca gaaacagctc tctcaacat gagagctgca cccctcctcc 60  
 tggccagggc agcaagcctt agccttggct tcttgtttct gcttttttc tgggtagacc 120  
 gaagtgtact agccaaggag ttgaagtctg tgactttggt gtttcggcat ggagaccgaa 180  
 gtcccattga cactttccc actgaccca taaaygaatc ctcatggcca caaggatttg 240  
 gccaaactca ccagctgggc atygagcagc attatgaact tggagagtat ataagaaaga 300  
 gatatagaag atttttgat gagtctata aacatgaaca ggtttatatt cgaagcacag 360  
 acgttgaccg gactttgat agtgctatg acaaccctgg caagcccg 408

<210> 421  
 <211> 352  
 <212> DNA



<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1) ... (352)

<223> n = A,T,C or G

<400> 421

```
gctcaaaaat ctttttactg atnggcctgg ctacacaatc attgactatt acggaggcca 60
gagagagaatg aggcctggcc tgggagccct gtgcctacta naagcacatt agattatcca 120
ttcactgaca ggaacaggtct ttttgggtc cttcttctcc accacnatac acttgcagtc 180
ctccttcttg aagattcttt ggcagttgtc tttgtcataa cccacaggtg tggaaacaag 240
gggtgcaacat gaaatttctg tttcgtagca agtgcattgc tcccaagttg gcaagtctgc 300
cactccagat ttattgggtg tttgttctct ttgagatcca tgcatttctt gg 352
```

<210> 422

<211> 337

<212> DNA

<213> Homo sapiens

<400> 422

```
atgccaccat gctggcaatg cagcgggagg tccaaggcct gcatatccag cccaagctgg 60
cgaatgacga cggcaaccgt tgcocgaagt tgcgcatgca agccgaagcg gtggtcraag 120
gcgatatcaa ggtgcggggc atngcggcgg cgtcaatcct ggcgaaggtc agccgtgac 180
gtgaaatggc agctgtcgaa ttgatctacc cgggttatgg catcgggagg cataggggt 240
atccgacacc ggtgcacctg gaagccttgc agcggctggg gccgagcgccg attcaccgac 300
gtttcttccg ccggtacggc tggctatga aaattat 337
```

<210> 423

<211> 310

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1) ... (310)

<223> n = A,T,C or G

<400> 423

```
gctcaaaaat ctttttactg atatggcatg gctacacaat cattgactat tagaggccag 60
aggagaatga ggcctggcct gggagccctg tgcctactan aagcncatta gattatccat 120
tcaactgacag aacaggtctt ttttgggtcc ttcttctcca ccacgatata cttgcagttc 180
tccttcttga agattctttg gcaattgtct ttgtcataac ccacaggtgt anaaacaagg 240
gtgcaacatg aaatttctgt ttcgtagcaa gtgcattgtc cacagttgtc aagtctgccc 300
tccgaattta 310
```

<210> 424

<211> 370

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1) ... (370)

<223> n = A,T,C or G

&lt;400&gt; 424

```

gctcaaaaat cttcttactg ataggcatgg ctacacaatc attgactatt agaggccaga 60
ggagaatgag guctggcctg ggagccclgt gctactaga agcacattag attatccatt 120
cactgacaga acaggtcttt ttgggtctct tcttctccac cactatatac ttgcagtcct 180
ccttctttaa gattctttg cagttgtctt tgtcataacc cccagggtga gaacatcct 240
ggttgaatct cctgggaact cctcattagg tatgaatat catgatgcat tgcataaagt 300
cccgaaaggtt gcaagatca caacgtctgc cagganaaca ttcattgtga taagcaggac 360
tcgtgcagc

```

370

&lt;210&gt; 425

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(216)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 425

```

aattgctatn ntttattttt ccactcaaaa caattaccaa aaaaaaanaa tnttaaatga 60
taacaaacna acatcaaggn aaaaaaanaa ggaatggntg actntgcata aatnggccga 120
anattatcca ttatnttaa ggttgacttc aggtacagc acacagacaa acatgcccag 180
gaggatctca ggaacgtctg atgtntcttg aggagg

```

216

&lt;210&gt; 426

&lt;211&gt; 596

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 426

```

cttcagtgga ggataacccct gttgcercgg gccgagggtc tccattaggg cctgattgat 60
tggcagtcag tgatggaagg gtgttctaat catcccgact gcccaaggg tgcctggcca 120
gctctctgtt tngctgagtt ggcagtagga cctaatctgt taattaagag tagatngtga 180
gctgtccctt tattttgatt aacctaatg ccttcccag ecgautcgga ttcagctgga 240
gacatcacgg caacttttaa tgaatgatt tggagggtcc ttaagaggca ctcccggtta 300
ttaggcagtt catctgcact gataactct tggcagctga gctgttcgga gctgtggccc 360
aaacgcacac ttggcctttt gttttgagat acaactctta atcttctagt catgcttgag 420
ggtagatggc cttttcagct ttaacccaat ttgactgac ttggaagtgt agccaggaga 480
atacartcat atctcgtgg gcttagaggg cacagcagat gtcattgggc taetgcttga 540
gtcccgctgg tccatccca ggaccttcca tgggcagta cctgggagcc cgtgct 596

```

&lt;210&gt; 427

&lt;211&gt; 107

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(107)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 427

```

gaagaattca agttagggtt attcaagggt ctlaengaga atcctanacc caggmuccag 60

```

cccgaggaga gccttanaga gctccctgtt gactgcccgg ctcaagg

107

<210> 428

<211> 38

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(38)

<223> n = A,T,C or G

<400> 428

gaatttcma anaaagactt tattcaatat ttacatt

38

<210> 429

<211> 544

<212> DNA

<213> Homo sapiens

<400> 429

ctttgctgga cggaaataas gtggaagcaa gcattgacctt ctgatgaggg cgcctgcattt 60  
attgaagagc ggcctgcagcc ctgcgggttca gattaaaatc cgagaatttgt atagacgccg 120  
atatccacga actcttgaag gactttctga ttatccaca atccaaatcat cggttttcag 180  
tttggatggg ggcctcatcc ctgtagaacc tgacttggcc gtggctggaa tccactcgtt 240  
gccttccact tcaattacac ctccactcacc atctctctct gttgggtctg tgcctgttca 300  
agatactaag cccacatttg agatgcagca gcaatctccc ccaattctct ctgtccatcc 360  
tgatgtgcag ttaaaaaatc tgccttttla tgatgtcctt gaggttctca tcaagccccc 420  
gagtttagtt caaagcagta ttacagcatt tcaagagaaq ttttttattt ttgctttgac 480  
acctcaacaa gttcagagaga tatgcatact cggggatttt ttgcccaggtg gtaggagaga 540  
ttat

544

<210> 430

<211> 507

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(507)

<223> n = A,T,C or G

<400> 430

cttctcncaa tggggctccc aaacttgggt gtgcagtgga aactccgggg gaattttgaa 60  
gaacactgac acccatcttc caccrcgara ctctgattta attgggctgc agtgagaara 120  
gagcatcaat ttaaaaagct gcccaagaatg ttntcctggg cagcgttgtg atcttctgcn 180  
ccttngtgac tttatgcaat gcattcatgct atttcatacc taatgagggg gtccaggag 240  
attcaaccag gatgtttcta cncctgtggg ttatgacaaa gacaartgac aaggaatntt 300  
caagcaggag gactgcaagt atatcgtggg gyagaagaag gacccaaaaa agacctgttc 360  
tgtcagtga tggatctctt aatgtgcttc tagtaggcac agggctcccc ggcaggccct 420  
cattctcctc tggcctctaa tagtcaatga ttgtgtagcc atguctatca gtaaaaagat 480  
ttttgagcaa aaaaaa

507

<210> 431

<211> 392

<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(392)  
<223> n = A,T,C or G

<400> 431  
gaaattcag aatggataaa aacaaatgaa gtacaaata ttccagattt aatagcgat 60  
aaacaagaaa gcacttatca gagggaactta caaatggaaq tacaactctan aaccatcato 120  
tatcatgget aatgtgaga ttagcacagc tgtattattt gtacattgca aacacctaga 180  
aagagatggg aaacaaatc ccaggagttt tgtgtgtgga gtccctgggtt tccaaacaga 240  
catcattcca gcattctgag attagggnga ttgggataca ttctggagtt ggaatgttca 300  
acaaagtgga tgttgttagg taaatgtac aacttctgga ttatgcraga cattgaaggt 360  
gcaatgaatc tggcttttac tctgtgttct ct 392

<210> 432  
<211> 387  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(387)  
<223> n = A,T,C or G

<400> 432  
ggatccnta cabaetcaa tatagctgta gtacatgttt tcattggngt agattaccac 60  
aatgcaagg caacatgtgt agatctcttg ttttatcttt ttgtctataa tactgtattg 120  
ngtagtccaa gctctcggna gtccagccac tgnagaacat gctcccttta gatlaaacctc 180  
attgaacnctn ttgttgnatt gcttgaacty tagngccctg tatttctgctt ctgtctngga 240  
attctgttgc ttctggggca ttctcttngg atgcagagga ccaccacaca gatgadagca 300  
ctctgaattt ntccaatcac agctgcgatt aagacatact gaaatcgtao aggarccggga 360  
acaacgtata gaacactgga gtcccttt 387

<210> 433  
<211> 281  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(281)  
<223> n = A,T,C or G

<400> 433  
ttcaactagc anageaanact gcttragggn gltganaatg aaaggcttcc acgcagttat 60  
ctgattaaag aacactaaga gaggyncaag gctagaagcc gaaggatgtc tacactatag 120  
caggcnctat ttgggttggc tggaggagcl gtggaaaca tggagagatt ggcgttggag 180  
atcgccgtgg ctattcctcn ttgntattac accagnaggy ntctctgtnt gccactggt 240  
tnnaaaacoy ntatacaata atgatagaat aggacacaca t 281

<210> 434  
<211> 484

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 434

```

tttctaaata agcattttagt gctcagtrcc tactgggtac tctttctctc ccttcctctg 60
aatttaatte ttccaacttg caabttgaaa ggattacaca tttcactgtg atgtatatatg 120
tgtctgcaaaa aaaaaaagt gtctttgttt aacttactt ggtctgtgaa tccatcttgc 180
tttttcccca ttggaactag tcatbaacc atctctgaac tggtagaaaa acatctgaag 240
agctagtcta tcagcatctg acaggtgaat tgggctggtc tcagaacctt tcccccaga 300
cagcctgttt ctatcctgtt taataaatta gtttgggttc tctcatgca taaccaaacn 360
tgcctccatc tgcacataa aagtctgtga cttagagttt agtcagcacc cccacccacc 420
tttatttttc tatggtttt tgcacataa tgagtgtttt gaaataaag tccccatgtc 480
tcta

```

484

&lt;210&gt; 435

&lt;211&gt; 424

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 435

```

ggcgcgtcca ggcaggtcca cttcttgcct tccagtcct ccttcaggga agcccatgt 60
gggtagcttt caatategca ggttcttact cctctgcctc tataagctca auctccacca 120
cgatcgggca agtaaacccc ctccctcgcc gacttcggaa ctggcgagag ttcagcgccg 180
atggggtctt ggggaggggg caagatagat gggggggagc ggcctggtgc ggggtgaccc 240
cttggagaga ggaaaaaggg cacaaagagg gctgcccacg cccctacagg agatggccct 300
ggtagagacc tttaggggtc tggaaacctt ggaacctccc tgccttaart ccccatctct 360
gotatcagaa acttaaaactt gaggatttcc tctgttttcc actgcaata aattcagagc 420
aaac

```

424

&lt;210&gt; 436

&lt;211&gt; 667

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (667)

&lt;223&gt; n = A, T, C or G

&lt;400&gt; 436

```

accttgggaa nactctcaca atataaaggg tcttagactt tactccaaat tccaaaagg 60
tcttggcat gtaatcttga aagttttccc aaggtagcta taatacctt ataagggtgc 120
aguctcttct ggaattcttc tgatttcaaa gtctcactct caagttcttg aaaaagagg 180
cagttcctga aaggcaggtg tagcaactga tcttcagaaa gaggaactgt gtgcacccgg 240
atgggctgcc agagtaggat aggatctcag atgctgacac ctctcggggg aaacagggtc 300
gccaggtttg tcatagcaat catcaaagtc cggctcaagt ctgtgcttcg aatatcaacc 360
tgttcatgtt tataggactc attcaagaat tttctatctc tctttcttat atactctcra 420
agtctaatat gctgtctcat gccagctggg gtgagttggc caaatcttg tggccatgag 480
gattcttlla tggggtcagt gggaaagggt tcaatggguc ttcgggtctc atgccgaac 540
accraagtea caaacttcaa ctcttgggt agtaccttc ggtctagcaa gaaaaaagg 600
agaaacaaga agcaaaggct aaggcttgrt gtcctggcag gaggaggggt gcagctctca 660
tgttag

```

667

&lt;210&gt; 437

&lt;211&gt; 693

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 437

```

ctacgtotca accctcattt ttaggtaagg aatcttaagl ccaaaagatat taagtgaetc 60
acacagccag gtaaggaaag ctggattggc acactaggac tctaccatac cgggttttgt 120
taagotcag gttaggaggc tgaataagct ggaaggaaet ccagacagct ttccagatc 180
ataaaagata attcttager catgttcttc tccagagcag acctgaaaty ccagcacagc 240
aggtaactect ctattttcac cctctttgct tctactctct ggcagtcaga cctgtgggag 300
gccctgggag aaagcagctc tctggatglt tgaacagatc atggactatt ctctgtggac 360
cattttccca ggtcacacctt ggtgtcacta ttggggggag agccagcacc tttagcttct 420
atttgagttt ctgtctgtct tcagttagag aaacttttgc tcttcacact tccatclga 480
acacctaaet gctgttgctc ctgaggtggt gaaagacaga tatagagctt acaptattta 540
tctattttct aggaactgag gctgtgggg taccttggcg tgcnaaaaca gatcctgttt 600
taaggaaatg ttgcttcaga gatgtctgta actatctggg ggtctgtgtg gctctttacc 660
ctgcacatg tgtctctctg gctgaaatg acc

```

693

&lt;210&gt; 438

&lt;211&gt; 360

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 438

```

ctgottatca caatgaatgt tctctgggc agcgttgtaa tctttgccac ctctgtgact 60
ttatgcacag catcatgcta ttcatacct aatgaggag ttccaggaga ttcaaccagg 120
atgtttctac acctgtgggt tatgcnaag acaactgcc aagatcttc aagaaggagg 180
actgraagta tatctggtg agaagaagga ccaaaaaag acctgttctg tcagtgaatg 240
gataatctaa tgtgtttcta gtaggcacag ggtctccagg ccaggcctca ttctctctg 300
gctctataata gtcaataatt gtgtagccat gcttatcagt naaaagattt ttgagcaaac 360

```

&lt;210&gt; 439

&lt;211&gt; 431

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(431)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 439

```

gttccctnta actcctgcc aaaaacagct tctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gcttttttct tggctagacc 120
gaagtgtact agccaaggag tgaagtttg tgactttggt atttcggcat ggagacogaa 180
gtcccatgga cacttttccc actgacccca taagggaatc ctcatggcca caaggatttg 240
gccaactcac ccagctgggc atggagcagr attatgaact tggagagtar ataagaaaga 300
gatatagaan attcttgaat gactcctata aacatgaaca ggtttatatt cgaagcacng 360
acgttgaccg gactttgatg agtgctatga caaacctggc agccctcga cgcggccgag 420
aatttagtag t

```

431

&lt;210&gt; 440

&lt;211&gt; 523

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 440

```

agagatcaag cltaggtcaa agttcataga gtteccatga actatctgac tggccacaca 60
ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggtattagat aaggctgttc 120
tttaaatgtc tgaatggaa cagatttcaa aaaaaaacc cacaatctag ggtgggaaca 180
aygaaggaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240
cttctctcaa ggaagggcaa agaaaggaga taaggtggag acatctgaa agtctctcc 300
actggaaac tgcactatc tgttttata tttctgttaa atatctagag gttacagaac 360
taaaattca aactctcttg tgcctctgg tcttggaaca ttatcttcc ttttaagaa 420
acaaaatca aactctcag aagatttga tctatgtat acatatagca gctcttgaag 480
tatatatct atagcaata agtcatctga tgaagcaag cta

```

523

&lt;210&gt; 441

&lt;211&gt; 430

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 441

```

gttctctcta actcctgcaa gaaacagctc tctcaacat gagagctgca cccctctcc 60
tggccagggc agcaagcctt agccttggct tcttgttct gtttttttc tgggtagacc 120
gaagtgtact agccaaggag ttgaagtttg tgaacttggg gtttggcat ggagacgaa 180
gtcccattga cactttccc actgaaccca taagggaatc ctcatggcca caaggtattg 240
gccaactcac ccagctgggc atgggagcagc attatgaact tggagagtat atagaaaga 300
gatctagaa attcttgaat gactcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgacag gactttgatg agtgcctatga caaacctggc agccctcga agcgcccgcg 420
aatttctgag

```

430

&lt;210&gt; 442

&lt;211&gt; 362

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 442

```

ctaaggaatt agtagtgtc ccctcacttg ttggagtyt gctattctaa aagattttga 60
tttcttggaa tgaatttat attttaactt tgggtgggga aagagttata ggaccacagt 120
cttactttct gatacttgta atttaattct ttattgcaat tgttttgacc attatgctat 180
atgttttagaa atggtcattt tacggaaaaa ttgaaaaaat tctgataata gtgcagaata 240
aatgaattaa tgttttactt attttatatt gaactgtcaa tgacaaataa aaattctttt 300
tgattatttt ttgttttcat ttaccagcat aanaactaag aattaaagt ttgacacag 360
tc

```

362

&lt;210&gt; 443

&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(624)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 443

```

tttttttttt gcaacacaat atacatcaca gtgaatgtg caatccttgc aaattgcaag 60
ttgaagaaat taatatcaga ggaggggaga gaagagctac tcagtaggga ctgagcacta 120
aatgcttatt ttanngaaa tgaagagagc agaaagcaat tgaagctacc ctgcttttg 180
tgcctgctag tactcgggtc gctgtcagca gcacgtggaa ttgaacattg caatgtggag 240

```

```

cccaaacccac agaaaatggg gtgaatattgg ccaactttct attaacttgg ctccctgttt 300
tataaattat tgtgaataat atcacctact tcaaggggca gttatgaggg ttatatganc 360
taacgctac aaaaacattta aacatagata acataggtgc aagtactatg tatctggtar 420
atggttaaca teottattat caaagtcaac gctaaatga atgtgtgtgc atatgcta 480
agtacagaga gagggcactt aaaccaacta agggcctgga ggggaaggltt cctggaaaga 540
ngatgcttgt gctgggtcca aatcttgggc tactalgaac ttggccaaat tatttaaa 600
ttgtccctat ctgctaana galc 624

```

&lt;210&gt; 444

&lt;211&gt; 425

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(425)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 444

```

gcacatcatt nntcttgcct tctttgagaa taagaagatc agtaaatagt tcagaagttg 60
gaagctttgt ccaggcctgt gtgtgaaccc aatgttttgc ttagaatatg acaagtaag 120
ttcatttgcta tagcataaca caaanatttg ataagtgggt gtacgcaaat ccttgaalgc 180
tgcttaattgt gagaggttgg taaaatcctt tgtgcacac tctaactccc tgaatgtttt 240
gctgtgctgg gacctgtgca tgcagacaa ggccaagctg gctgaagag caaccagcca 300
cctctgcaat ctgccaactc ctgttggcag gatttctttt tgcacctgt gaagagcaac 360
ggaggcacca gggcataagt gagtngactt atggctcgacg cggccgcgaa cttagtagta 420
gtaga 425

```

&lt;210&gt; 445

&lt;211&gt; 414

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(414)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 445

```

catgtttatg nttttggatt actttgggca cctagtgttt ctaaatcgta tatcattctt 60
ttctgttttt caaagcaga gatggccaga gtctcaacaa actgtatctt caagtctttg 120
tgaattctt tgcattgtgc agattattgg atgtagtctt ctttaactag catataaact 180
tgggtgtttt cagataaag aacagcaaaa tgtgggtggaa ttaccatttg gaacattgtg 240
aatgaaaaat tgtgtctcta gattatgtaa caaataacta ttccctaacc attgatcttt 300
ggatttttat aatcctact acaaatgact aggcctctcc tcttgtattt tgaagcagtg 360
tgggtgctgg attgataaaa aaaaaaaag tcgargcggc cgggaattta gtat 414

```

&lt;210&gt; 446

&lt;211&gt; 631

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(631)



<223> n = A,T,C or G

<400> 446

```

acaaattaga anaaagtguu agagaaracc acataacttg tccggacacat tacaatggct 60
tctgcatgca tgggaagtgt gagcattbta tcaatatgca ggagccalcl tgcagggtgtg 120
atgctgggtta tactggaca cactgtgaaa aaaaggacta cagtgttcta tangltgttc 180
ccggtcctgt argatttcag tagtctttaa tccgagctgt gattgggaca attcagattg 240
ctgtcatctg tctggtggtc ctctgcatca caagggccaa actttaggta atagcatttg 300
actgagattt gtaaaccttc caaccttcaa ggaatgrcc cagaagcaac agaattcaca 360
gacagagcgc aatatacagg cactacagtt cagacaatcc aacagagcgc tccacggggt 420
taactcaagc ggagcatgtt ccacagtgc tggactaccg agagcttggc utacacaata 480
cagtattatc gacaaaagca taagacaaga gatctacaca tyttgcttg catttctgtg 540
natctacacc aatgaaaaca tgtactacag ctatatttga ttatgtatgg utatatttga 600
aatagtatac attgtcttga tgtttttct g 631

```

<210> 447

<211> 585

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> {1}... (585)

<223> n = A,T,C or G

<400> 447

```

ccttgggaaa antnlcaca tatnaagggt cgtagactcl actccaaatt ccaaaagggt 60
cctgggcacg taatcctgaa agttttccc aggtagctat aaaatcctta tgggggtgca 120
gctctctctg gaattcctct gatttcaag tctcactcnc aagttcttga aaacgagggc 180
agtctctgan aggcagggtat agcaactgat ctccagaaag aggaactgtg tgcacuggga 240
tgggctgcca gaggaggata ggaattccga tgcagacac ttctggggga aacagggtgtg 300
ccagggttgt catagacatc atcaaatgac ggtcaacgtc tgtgcttcca atataaact 360
gttcctgttt ataggactca tccaaagatt tctatatct ctctcttata tactctccaa 420
gttcataatg ctgtccatg ccagctggg tgagtgggc aatccttgt ggccatgagg 480
attcctttat ggggtcagtg ggaagggtgt caatgggact tgggtctcca tgcggaaca 540
ccaaagtcac aaattcaac tcttggcta gacacttg gtata 585

```

<210> 448

<211> 93

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> {1}... (93)

<223> n = A,T,C or G

<400> 448

```

tactgttggg tctttctgan nccggaactg accttgccag ccttgccga gggucnccat 60
ggctccctag tgccttggag aggaaggggc tag 93

```

<210> 449

<211> 706

<212> DNA

<213> Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{706}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 449

```

ccaagttcat gctntgtgct ggacgctgga caggggggcaa aagcnnnttgc tegtgggtca 60
ttctgancac cgaactgacc atgccagccc tgcgatgggt cctccatggc tccctagtgc 120
cctggagagg aggtgtctag tccagagagta gtccctggaag gtcggctctg ngaggagcva 180
cggggacacc atcctgcaga tggtcggggc cgtcccatte gccattcagg ctgcgcaact 240
gttgggaagg gcgatcggtg cgggcctctt cgttattang ccagctggcg aaagggggat 300
gtgctgcaag gcgattcagt tgggtaacgc cagggttttc ccagtcnccg ggttgtaaaa 360
cgacggtccg tgaattgaat tccggtgaen ctatagaage gctatgacgt cgcattgcacg 420
cgtacgtcaq cttggatcct cttagagcggc cggctactac tactaaattc ggggcgcggt 480
cgacgtggga tccncaactga ggaagtggag agtgacatgt gctggacncc gtccatgaaq 540
cactgagcag aagctggagg cacaacgcnc caggcactca cagctactca ggggctgag 600
aacaggttga acctggggagg tgggagttgc aatgagctga gatcagggcn ctgmcgccca 660
gcattgatga cagagtgaaa ctcattctta aaaaaa 706

```

&lt;210&gt; 450

&lt;211&gt; 493

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 450

```

gagacggagt gtcactctgt tggccaggct ggagtgcagc aagacactgt ctaagaaaaa 60
acagttttta aaggtaaaaa accataaaaa gaaalatcct atagtggaaa taagagagtc 120
aaatgaggtc gagaacttta caaagggaac ttacagacat gtgcgcaata tcactgcacg 180
agcctaagta taagaacaa ctttggggag aaaccalcct ttgacagtga ggtacaattc 240
caagtccagt agtgaaatgg gtggacttla actcaatta atcttgccag ctgaacacra 300
agagacactg tcagagaggtt aaaaagttag ttctatccat gaggtgattc cacagcttcc 360
tcaagtcaac acatctgtga actracagar caagttctta aaccactgtt caaactctgc 420
taccatcag aatracctgg agagttttac aaactcccat tggcaggggt cgacgcggcc 480
gggaatttag tag

```

493

&lt;210&gt; 451

&lt;211&gt; 501

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{501}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 451

```

gggcgcgtcc cattegccat tcaggctguy caactgttgg gaaggggcgt cgggtgcggc 60
ctcttcgcta ttacgccage tggcgaaagg gggatgtgct gcaaggcgat taagttgggt 120
aacgccaggg ttttccagct cncgacgttg taaaacgacg gccagtgant tgaattttag 180
tgacnctata gaagagctat gacgtcgcat gcaacgctac gtaagnttgg atcctctaga 240
ggggccgect actactacta aattccgggc cgcgtcgacg tgggctcnc actgagagay 300
tgggaggtga catgtgtctg acnctgtcca tgaagcactg agcagaagct ggaagcaca 360
cgcnccagac actnacagct actcaggagg ctgagacacg gttgaacctg ggaggtggay 420
gttgcaatga gctpgatca ggcncctgcn vccagcactg gatgaragag tgaactcca 480

```

tcttaaaaaa aaaaababaaa a

501

<210> 452  
 <211> 51  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(51)  
 <223> n = A,T,C or G

<400> 452  
 ggaacgggttc accnttaca cncctttttag gatgggnntt ggggagcaag c

51

<210> 453  
 <211> 317  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(317)  
 <223> n = A,T,C or G

<400> 453  
 tacatcttgc tttttcccca ttggaantag tcattcaacc atctctgaac tggtaguaza 60  
 acatctgaag agctagtctc tcagcatctg gcaagtgaat tggatggttc tcagaacct 120  
 ttaccccaac cagcctgttt ctactctgtt caataaatc gtttgggttc tctacatgca 180  
 taacaaaccc tgcaccaatc tgcacacata aagtctgtga cttagagttt antcagacc 240  
 cccaccasac ttbatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaataagg 300  
 taacatgtc tttatta 317

<210> 454  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<400> 454  
 ttccgggtac aatcaacttc cagagtgtag tttctttcta tagatgagtc agcattaata 60  
 taagcracgc caggtctctg aaggagtctt gattctctct ctgtctactc agtagaacca 120  
 agaagacca attcttctgc atcccaagctt gcanacaaa ttgtctctct aggtcttcac 180  
 ccttcttttt tcagtgttcc aaagctctct acaatttcat gaacaacagc t 231

<210> 455  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<400> 455  
 taccaaaagag ggcataatca tcagtctcac agtaggggtc accatctctc aagtgaabaa 60  
 cattgttccg atgggggttt ccacaggtca cacacacaaa acaggaaaca tgccaagttt 120  
 gtttcaacgc attgatgact tctccaagga tcttcttttg gcatcgacca cattcagggg 180  
 caaagaattt ctcatagcac agctcaaat acagggtctc tttctctct a 231

<210> 456  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<400> 456  
 ttggcaggta cccctacaaa gaagacacca taccttatgc gttattaggt ggaataatca 60  
 ctccattcag tattatcggt attcttcttg gagaaacct gtctgttac tgtaaccttt 120  
 tgcactcaaa ttcttttatc aggaataact acctagccc cattacaaa gcaattggaa 180  
 cctttttatt tggtagcgt gctcgtcagt cctgactga cattgccag t 231

<210> 457  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(231)  
 <223> N - A,T,C or G

<400> 457  
 gagggtacc aggggtctga aaatctctnn ttantagtc gatagcaaaa ttgttcntca 60  
 gcattcccta atatgatctt gctataakta gattttctc cattagagtt catacagttt 120  
 catttgattt tattagcaat ctctttcaga agaccttga gatcattaag ctttgtatcc 180  
 agttgtctaa atcgatgctt catttctct ggggtctcgc tggcttttgc a 231

<210> 458  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<400> 458  
 aggtctgggt ccccccactt ccaatccctt ctactctctc taggactggg ctgggcccag 60  
 agaagagggg tggttaggga agcgtttgag acctgaagcc ccacctcta ccttcttca 120  
 acaccctaac ctgggtaac agcatttggg attatcattc ggyatgagta gaatttccaa 180  
 ggtcctgggt caggcatttt gggggccag acccaggag aagaagctt t 231

<210> 459  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<400> 459  
 ggtaccgagc ctrgctgaca cagagaaacc ccaacgcgag gaaaggaatg gccagccaca 60  
 ccttcgcgaa acctygtgtg gccacnagc cttaacggga caggacagay agacagagca 120  
 gccctgcact gttttccctc caccacagcc atcctgtccc tcattggctc tgtgcttcc 180  
 actatccaca gtcaccgtcc caatgagaaa caaguaggag cccctccac a 231

<210> 460  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<400> 460

```

gcagggtatca catgctgcaa caacagatgt gactaggaa cgcgggtgac atggggaggg 60
cctatcacc cttctctggg ggctgcttct tcacagtgat catgaagcct agcagcaaat 120
ccnacctccc caccagcaca cggccagcct ggagcccaaa gaagggtcct cctgcagcca 180
gtggagcttg gtccagcctc caglcacccc ctaccaggct taaggataga a 231

```

&lt;210&gt; 461

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 461

```

cgagggttga gaagctctaa tgtgcagggg agccgagaag caggcggcct agggagggtc 60
gcgtgtgctc cagaaaggtg tgtgcatgac ggaggggaaa caggcgcctg tgtgtcctgg 120
gtgggggttca gtgaggagtg ggaatttggg ttagragaac caagccgttg ggtgaataag 180
aggggggattc catggcactg atagagccct atagtctcag agctgggaat t 231

```

&lt;210&gt; 462

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 462

```

aggtaccctc attgtagcca tgggaaaatt gatgttcagt ggggatacgt gaattaaatg 60
gggtcatgca agtataaaaa ttaaaaaaaa aagacttcat gcccaatctc atatgatgta 120
gaagaactgt tagagagacc aacagggtat tgggttagag atttcagag tcttaccttt 180
tctagaggag gtatttaatt ttttctcact cctccagtgt tgtatttgg a 231

```

&lt;210&gt; 463

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 463

```

tactccagcc tgggtgacaga gggagaccct atcacggccc cccacccccc caaaaaaaan 60
actgagtaga caggtgtcct cttggcatgg taagtcttaa gtccctccc agatctgtga 120
catttgacag gtgtctttc ctctggacct cgggtgtccc atctgagtga gaagagcag 180
tggggaggtg gatcttccag tcgaagcggc atagaagccc gtgtgaaaag c 231

```

&lt;210&gt; 464

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 464

```

gtactctaa attttatcta agctgccttt tctgggtggg aaagtctaac cttagtgact 60
aaggacatca catatgaaga atgtttaagc tggaggtggc aacgtgaatt gcaaacaggg 120
cctgcttcag tgactgtatg cctgtagtc cagctacttg ggagtctgtg tgaggccagg 180
gggtccagcg caccagctag atgctctgta acttctaggc cccattttcc c 231

```

&lt;210&gt; 465

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 465

```

calgtttgttg tagctgtggg aatgctgggt gcatctcaga cagggttaac ttcagctcct 60
gtggcaaatt agcaacaaat ttgacatca tatttatggt ttctgtatct ttgttgatga 120
aggatggcag aatttttggg ttgtgtcata atatactcag attagttcag ctucatcaga 180
taaactggag acatgcagga ctttagggta gtgttgtagc tctegtantg a 231

```

&lt;210&gt; 466

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 466

```

caggtaacct tttccattgg atactgtgct agcaagcatg ctctccgggg tttttttaat 60
ggccttcgaa cagaacttgc cacatcccaa ggtatantag tttctaacct ttgccagga 120
octgtgcaat caaatattgt gggaatttcc ctagctggag agtcacaaa gacttatggc 180
aatcatggag auctgtccca caagatgaca accagtgtt gtgtcgggt g 231

```

&lt;210&gt; 467

&lt;211&gt; 311

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 467

```

gtacaccctg gcacagtcac atctgaactg gttcggcact catcttcat gagatggatg 60
tggcggcttt tctccttttt catcaagctt cttcagcagg gagccagga cagcctgcac 120
tgtgcttaa cagaaggctt tyagattcta agtgggaatc atttcagtga ctgtcatgtg 180
gcatgggtct ctgcccaagc tctaatgag actatagcaa ggcggctgtg ggaagtcagt 240
tgtgacctgc tgggctccc aatagactaa caggcagtc cagttggcc caagagaaga 300
ctgcagcaga c 311

```

&lt;210&gt; 468

&lt;211&gt; 312

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 468

```

cattgtgttg ggagaaaac aggggggaga tttgtgtggc tgcagccgag ggagaccagg 60
aagctctgca tgggtgggaag gacctgatga tacagagttt gataggagac aattaaaggc 120
tgggaaggcac tggatgcttg atgatgaagt ggaatttcaa actggggcac tactgaanng 180
atgggatggc cagagacaca ggagatgagt tggagcagc tcaataacaa agtgggttcaa 240
cgaggacttg gaattgcctg gagctggagc tgaagtttag cccaattggt tactagttga 300
gtgaattgtg atgattggat gatcatttct catctctgag cttcaggttt cccatccata 360
aaatgggata cacagtatga tctataaagt gggatctagt atgactact tcaattgggt 420
attgaaggga tgaattgaga caatttattt caggtgccta gaaatgccc cagattagta 480
catttgggtg aactggaaa tggcataaca ccaaatctta tatatgtcag atgttactat 540
gattatcatt caatctcata gttttgtcat ggccaattt atctcactt gtgcctcaa 600
aaattgaact gttacaaaag gaatctctgg tcttgggtaa tggctgagca ccaactgagca 660
tttcatttcc agttggcttc ttgggtttgc tagctgcac actagtrac tttaataaat 720
gaagttttta catttctcca gtgatttttt tatctcact ttgaagatoc tatgttatgt 780
gattaaataa agnacttgag aagaacagg ttcattaaac ataaaatcaa tctagagcca 840
aattttcttg atgggcaata cttatgttca caggaaatgc ttttaaatat gcagaagata 900
attaatggc aatggacaaa gtgaacaaact tagacttttt ttttttttll ggaagtatct 960
ggatgttctt tagtcaacta agggagaact gaaaaatagc agtgagttcc acatcatcca 1020
acctgtgaga ttaaggctct ttgtggggaa ggacaaagat ctgttaattl acagtttctt 1080
tccaaagcca agtccgaatt ttgaacata tcaaagctct tcttcagac aaataatcta 1140
tagtacctct ttcttatggg atgcacttat gaaaatagt ggtgttcaa elctagtca 1200

```

```

tttagctctc aaaaatggllc attttaagag aaagtllttag aatctcatat ttattcoctgt 1260
gggaaggacng cattgtggct tggactllat aaggtcttta ttcaactaa taggtgagaa 1320
ataagaaagg ctgctgactt taccatctga ggcracacat ctgctgaaat ggagntaatt 1380
aacatcactn yaaacagcaa gatgacaaat caatgtctaa gtgltgaat gtttttgcac 1440
atttcnager ccttt.aaatc tccacacaca caggaagcac aaaggaagc acagagater 1500
ctgggagaaan tgcocggccg ccat.cttggg tucategatga gcclogccct gtgcctgggc 1560
ccgcttgtga gggaaggaca ttagaanaatg aattgatgtg ttcttaaaag gatgggcagg 1620
aaaacagatc ctgttgttga tatttatltg aacgggatta cagatttgan atgaagtcac 1680
aaagt.gagca ttaccaaaga gaggaaanaa gar.gagaaa tcttgatggc ttcaaaagac 1740
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accacggggc agagggatcag gattctggcc ctgctgacta aactgtgngt tcatnaacca 1860
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&lt;210&gt; 469

&lt;211&gt; 2229

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 469

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aatgggaatt

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&lt;210&gt; 470

&lt;211&gt; 2426

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 470

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gtaaattctt tattgccagc agtgaaacct aaagtggctc acaagagtgc cctatttctt 60
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caaaattcta aagcgcactc accatgaaat ggataaaggc taaccttggg gatttgcaat 180
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2426

&lt;210&gt; 471

&lt;211&gt; 812

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 471

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gaacgcacag tttaggcagc agggccagaa tcttgacctt ctgccccttg gttatctcct 240
ccccagcttg gctgctcat gtcctacag tatctcattt tgtttgttgc atgtcttctg 300
aagccatcaa gattttcttg tctgttttcc tctcatttgt aatgtcact ttgtgacttc 360
atttcaaatc tgtaatccg ttcacataaa tatccacaa aggatctgtt ttcctgcccc 420
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812

&lt;210&gt; 472

&lt;211&gt; 515

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}... (515)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 472

```

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gaaaaaaaat aaagaaagaaat aaaaaaaaat aaaaaa 515